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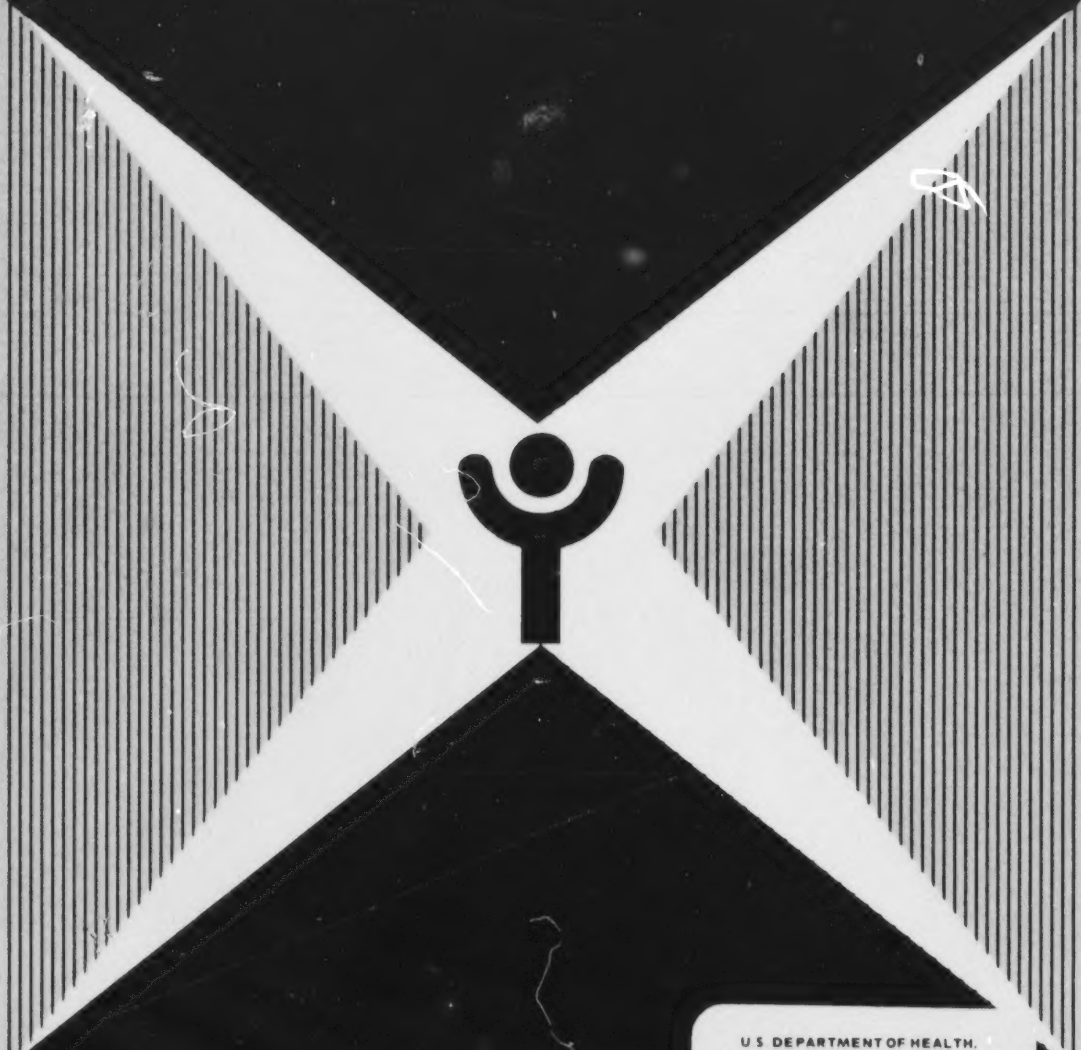
ABSTRACT

This report is one of the products of the knowledge development effort implemented under the mandate of the Youth Employment and Demonstration Projects Act of 1977. The report describes the methodology and preliminary findings of the National Longitudinal Survey (NLS) of youth, which seeks the effects of military service on the education and employability of youths. The NLS is a continued survey of 12,693 youth age 14-21 as of July 1, 1979. Of these, 1,281 are persons in the military. This preliminary study of the first interview in February-May, 1979, reports the following findings: (1) employment opportunities offered by the Armed Forces are dramatically affected by public policy decisions; (2) the Armed Forces are more egalitarian than the private sector as a labor market, perhaps too much so in the sense that almost all entrants are paid the same and the wage structure is too compressed to attract or retain enough highly skilled workers; (3) as a result of public policy, the Armed Forces are less egalitarian in hiring women and blacks than the private sector; (4) those who went into the service would be better off there, while those the service wants are less well off in the service than they would be in the private sector; (5) high turnover is the result of these practices, so the armed forces must invest heavily in training; and (6) the evidence is not yet in to determine the impacts of the Armed Forces on individual development. (KC)

YOUTH KNOWLEDGE DEVELOPMENT REPORT

RESEARCH ON YOUTH EMPLOYMENT AND EMPLOYABILITY DEVELOPMENT

The All-Volunteer Force: A 1979 Profile and Some Issues



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YOUTH KNOWLEDGE DEVELOPMENT REPORT 2.8

THE ALL VOLUNTEER FORCE: A 1979 PROFILE AND SOME ISSUES

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April 1980

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OVERVIEW

The Armed Forces are the largest single employer of youth with a major residual impact on the civilian labor market. The military has traditionally operated as a human resource development mechanism, conscripting or hiring relatively unskilled recruits, training and educating these for specific functions, promoting from within but retaining most recruits for only a limited period. In this regard, the military has functioned as a developmental option to the education and employment and training systems. Finally, the military is an employer which must compete in the labor market to meet its entry manpower needs and to retain skilled workers even when there is initial conscription of recruits.

Too frequently, the Armed Forces are ignored in discussions of youth employment problems and solutions, while military manpower decisions are sometimes made for strategic reasons without regard for the civilian spillovers. The National Longitudinal Survey (NLS) of youth provides an opportunity to bridge the gap and to assess the residual impacts of the Armed Forces on youth labor market problems, the effectiveness of the Armed Forces in human resource development, and the factors determining the success of the military in meeting its needs as an employer. The NLS is a longitudinal survey of 12,693 youth age 14-21 as of July 1, 1979. Of these 1,281 are persons in the military, including a sample of overseas personnel. All youth in the sample are asked the same basic questions with the military personnel receiving supplementary queries.

This is a preliminary report on the first interviews in February - May 1979. The analysis is straightforward and of course, no longitudinal experience has yet been tracked. Nevertheless there are some important findings:

First, despite the fact that the Armed Forces are a "volunteer" force, presumably competing in the labor market and paying competitive wages and salaries, it is very clear that the employment opportunities offered by the services are dramatically affected by public policy decisions.

Second, the Armed Forces, as an internal labor market, are more egalitarian than the civilian sector. As a generalization, minorities and females have a better relative chance in the military than outside as judged by preferences for enlistment and the patterns of retention of these within the services. Military pay, established by public policy, is also "egalitarian," perhaps too much so in the sense that almost all entrants are paid the same and the wage and salary structure is too compressed to attract or retain enough highly skilled workers.

Third, the Armed Forces are less egalitarian in hiring than the civilian sector, again as a result of public policy decisions. There is public concern about the racial composition of the military. If market forces were allowed to prevail, there is no doubt that the percentage of Blacks in the military would increase. The Black share is reduced by "rationing" so that relatively more qualified Blacks are hired. A large employer like the automobile industry responds by rapidly changing composition of its labor force in response to supply and demand. Likewise, a private sector employer such as the automobile industry would not be permitted to hire a large portion of White applicants but a substantially lesser portion of Black applicants with the same qualifications. In the military, this has been accepted because, in the end, it is the unspoken public policy. Similarly, opportunities within the military are arbitrarily restricted so that women have to meet higher standards to enter than do men. Again, there is a rationing of opportunity.

Fourth, the egalitarian internal labor market puts more pressure on the rationing mechanisms since the same groups that are excluded tend to be relatively better off if they can get into the Services. Likewise, those who are "desired" by public policy are least well off in the Services relative to the civilian sector.

Fifth, high turnover is the result, so that the Armed Forces must invest heavily in training a constant influx of recruits. Since the more able within the ervices and outside are most likely to be attracted and retained by education and training opportunities, these should probably be stressed to a greater extent by the military since ability-related earnings differentials adequate to meet manpower needs are denied by public policy.

Finally, the evidence is not yet in to determine the impacts of the Armed Forces on individual development. Initial evidence is that even for short-term enlistees, the military experience is positive or at least not negative.

These interpretations are, of course, both tentative and judgemental. The knowledge development payoff of the NLS will come when subsequent surveys provide longitudinal information to resolve the many questions raised by the initial findings.

This volume is one of the products of the "knowledge development" effort implemented under the mandate of the Youth Employment and Demonstration Projects Act of 1977. The National Longitudinal Survey is primarily funded under the Youth Employment and Demonstration Projects Act although the military components of the survey were funded by the Department of Defense. The observations in this overview are those of the Office of Youth Programs, while the conclusions in the test represent the views of the Center for Human Resource Research at Ohio State University. A range of more sophisticated analyses are intended by the Center and the Department of Defense.

The knowledge development effort consists of hundreds of separate research, evaluation and demonstration activities which will result in literally thousands of written products. The activities have been structured from the outset so that each is self-standing but also interrelated with a host of other activities. The framework is presented in A Knowledge Development Plan for the Youth Employment and Demonstration Projects Act of 1977, A Knowledge Development Plan for Youth Initiatives Fiscal 1979 and Completing the Youth Agenda: A Plan for Knowledge Development, Dissemination and Application for Fiscal 1980.

Information is available or will be coming available from these various knowledge development efforts to help resolve an almost limitless array of issues. However, policy and practical application will usually require integration and synthesis from a wide array of products, which, in turn, depends on knowledge and availability of these products. A major shortcoming of past research, evaluation and demonstration activities has been the failure to organize and disseminate the products adequately to assure the full exploitation of the findings. The magnitude and structure of the youth knowledge development effort puts a premium on structured analysis and wide dissemination.

As part of its knowledge development mandate, therefore, the Office of Youth Programs of the Department of Labor will organize, publish and disseminate the written products of all major research, evaluation and demonstration activities supported directly by or mounted in conjunction with OYP knowledge development efforts. Some of the same products may also be published and disseminated through other channels, but they will be included in the structured series of Youth Knowledge Development Reports in order to facilitate access and integration.

The Youth Knowledge Development Reports, of which this is one, are divided into twelve broad categories:

1. Knowledge Development Framework: The products in this category are concerned with the structure of knowledge development activities, the assessment methodologies which are employed, the measurement instruments and their validation, the translation of knowledge into policy, and the strategy for dissemination of findings.

2. Research on Youth Employment and Employability Development: The products in this category represent analyses of existing data, presentation of findings from new data sources, special studies of dimensions of youth labor market problems, and policy issue assessments.

3. Program Evaluations: The products in this category include impact, process and benefit-cost evaluations of youth programs including the Summer Youth Employment Program, Job Corps, the Young Adult Conservation Corps, Youth Employment and Training Programs, Youth Community Conservation and Improvement Projects and the Targeted Jobs Tax Credit.

4. Service and Participant Mix: The evaluations and demonstrations summarized in this category concern the matching of different types of youth with different service combinations. This involves experiments with work vs. work plus remediation vs. straight remediation as treatment options. It also incudes attempts to mix disadvantaged and more affluent participants, as well as youth with older workers.

5. Education and Training Approaches: The products in this category present the findings of structured experiments to test the impact and effectiveness of various education and vocational training approaches including specific education methodologies for the disadvantaged, alternative education approaches and advanced career training.

6. Pre-Employment and Transition Services: The products in this category present the findings of structured experiments to test the impact and effectiveness of school to-work transition activities, vocational exploration, job-search assistance and other efforts to better prepare youth for labor market success.

7. Youth Work Experience: The products in this category address the organization of work activities, their output, productive roles for youth and the impacts of various employment approaches.

8. Implementation Issues: This category includes cross-cutting analyses of the practical lessons concerning "how-to-do-it." Issues such as learning curves, replication processes and programmatic "batting averages" will be addressed under this category, as well as the comparative advantages of alternative delivery agents.

9 Design and Organizational Alternatives: The products in this category represent assessments of demonstrations of alternative program and delivery arrangements such as consolidation, year-round preparation for summer programs, the use of incentives and multi-year tracking of individuals.

10. Special Needs Groups: The products in this category present findings on the special problems of and the programmatic adaptations needed for significant segments including minorities, young mothers, troubled youth, Indochinese refugees and the handicapped.

11. Innovative Approaches: The products in this category present the findings of those activities designed to explore new approaches. The subjects covered include the Youth Incentive Entitlement Pilot Projects, private sector initiatives in weatherization, low-head hydroelectric dam restoration, windpower and the like.

12. Institutional Linkages: The products in this category include studies of institutional arrangements and linkages as well as assessments of demonstration activities to encourage such linkages with education, volunteer groups, drug abuse agencies and the like.

In each of these knowledge development categories, there will be a range of discrete demonstration, research and evaluation activities focused on different policy, program and analytical issues. In turn, each discrete knowledge development project may have a series of written products addressed to different dimensions of the issue. For instance, all experimental demonstration projects have both process and impact evaluations, frequently undertaken by different evaluation agents. Findings will be published as they become available so that there will usually be a series of reports as evidence accumulates. To organize these products, each publication is classified in one of the twelve broad knowledge development categories, described in terms of the more specific issue, activity or cluster of activities to which it is addressed, with an identifier of the product

and what it represents relative to other products in the demonstrations. Hence, the multiple products under a knowledge development activity are closely interrelated and the activities in each broad cluster have significant interconnections.

This volume should be assessed in conjunction with Findings of the National Longitudinal Survey of Young Americans in the "research on youth employment and employability development" category. There are also several papers on the impact of the military on the youth labor market in Youth Unemployment - It Measurement and Meaning, also in this category.

ROBERT TAGGART
Administrator
Office of Youth Programs

PREFACE

The following monograph presents preliminary cross-tabular analyses of the 1979 National Longitudinal Survey of Youth Labor Market Experience. These analyses represent only a "first cut" at the data. They should not be considered definitive in any way: further refinements of the data, reweighting, and more sophisticated multivariate analyses may yield other results. Due, however, to the need of the Department of Defense and the services for early indications of where the 1979 NLS Youth Survey may lead, we present below a series of descriptive chapters.

This is the first report on a cohort of youth ages 14-21 on January 1, 1979. The cohort will be interviewed annually for the next five years; subsequent reports will refine the analyses presented here and trace the experiences of the youth over the period. The purpose of these surveys is to better understand the factors affecting success in the labor market and in life generally.

This cohort of youth is part of the National Longitudinal Surveys of Labor Force Experience (NLS), which were begun in 1966. Funding for the NLS comes from the Office of Research and Development and Office of Youth Programs, Employment and Training Administration, U. S. Department of Labor and the Office of the Secretary of Defense and the three armed services.

Overall responsibility for the NLS rests with the Center for Human Resource Research, The Ohio State University who design the questionnaires, analyse the data and provide it to the public. Sample design and data collection for the youth cohort were conducted by the National Opinion Research Center (NORC). The Survey Director at NORC for this project is Celia Homans; sampling design was the responsibility of Martin Frankel.

Other NORC senior staff who made sutstantial contributions were Mary Catherine Burich, Wendi Kreitman, and Karin Steinbrenner.

All of the authors were involved in writing this report. Primary responsibility by chapter was divided as follows: Chapter 1 - Borus, Kim, and Nestel; Chapter 2 - Kim and Nestel; Chapter 3 - Phillips; Chapter 4 - Kim and Nestel; Chapter 5 - Borus, Kim and Nestel; and Chapter 6 - Kim, Nestel, and Phillips.

Many of the individuals at the Center for Human Resource Research have been engaged in this study in addition to the authors of this report. While it is not possible to acknowledge all of them, we would particularly like to thank Susan Carpenter, Joan Crowley, Stephanie Campbell, Dean Croushore, Dennis Grey, John Jackson, Herbert Parnes, and David Shapiro.

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EXECUTIVE SUMMARY

A summary of key issues addressed in the report is presented by topic area.

PARTICIPATION RATES (Chapter 2)

Of the 8,239,000 18-21 year old males in the United States, 6.7 percent were serving in the Armed Forces. Approximately 0.6 percent of the 8,285,000 18-21 year old females were serving. The analysis of participation rates by group shows:

- The proportion of married men who serve in the Armed Forces is almost twice that of men who have never married.
- The black youth participation rate is about 1.5 times that of whites and comes disproportionately from blacks with relatively higher socio-economic status and with better employment qualifications.
- For whites, high school graduates and high school dropouts participate at about the same rate. However, the participation rate for black male high school graduates is five times higher than for black dropouts and twice the percentage of Hispanic high school graduates participate in the Armed Forces compared to Hispanic dropouts.

EFFICACY OF THE LABOR MARKET MECHANISM (Chapter 2)

The relative quality of youth in the volunteer force compared to the labor market was examined. The issue was whether or not the reliance upon the labor market mechanism for sorting the nation's youth between the military and private sector resulted in a reasonably representative Armed Forces, or were those enlisting for service mostly from poor families and less capable of competing in the private sector?

To address the efficacy question, youth (aged 18 through 21) serving in the Armed Forces were compared to non-veteran youth employed full time in the private sector. Eight dimensions formed the basis of the comparison.

- Education: The Armed Forces males are on a par with the full time employed and compare favorably to the total 18-21 year old population average in the proportion who are high school graduates. Armed Forces females compare favorably to both groups. However, the proportion who have some college training is lower for military youth than the full time employed.

- Educational Experiences: More than twice the percentage in the Armed Forces have expectations to be college graduates (both male and female) compared to the full time employed.

- Knowledge of the World of Work (KOWW): The KOWW scale was used as a proxy for mental ability. The test asks respondents about what is involved in different jobs, ranging from fork lift operator to an economist. Armed Forces males and females are about the same and compare favorably to their respective counterparts in the labor market and in the population as a whole.

- Rotter Score: The Rotter scale was used to measure a respondent's feeling toward being able to affect his or her destiny. It was hypothesized that if those with few alternatives were enlisting, then the mean for Armed Forces would be higher. This was not the case. Armed forces males and females were essentially the same as the full time employed.

- Marital Status: Both sexes in the Armed Forces are married at about the same rate as the full time employed. The rate is considerably higher than the 18-21 year old population average.

- Socioeconomic Background: Armed Forces personnel are very similar to the full time employed and the overall population on two measures used to proxy for socio-economic background: parents' education and fathers' occupation.

- Minority Distribution: The Armed Forces had more than proportionate participation by minorities, both males and females. The Armed Forces minorities were better educated and had higher mental ability than their full time employed minority counterparts.

- Health: There were no significant differences between the Armed Forces and the labor market on the proportion of respondents who reported that health problems were affecting work performance.

Thus, it is clear that the Armed Forces, as an aggregate, is receiving its share of the capable youth of the Nation.

QUALITY OF EMPLOYMENT AND JOB SATISFACTION (Chapter 3)

An analysis of eighteen measures of different job aspects indicate the following:

- Military youth perceive greater job disamenities, less motivating job aspects, and fewer job rewards than their counterparts employed full time in the civilian sector.

- The three items with the greatest difference between the Armed Forces and the civilians were the same for males and females--pay, job comfort, and job challenge. Armed Forces youth saw greater job security than those in the labor market.

- Armed Forces females generally see more favorable job aspects and have greater job satisfaction than Armed Forces males.

- The ground combat arms (Army and Marine Corps) are generally lower on measures of job quality than the technical services (Navy and Air Force).
- The differences in job quality and level of disamenities between the Armed Forces and the civilian labor market, as well as differences among the services themselves, most likely affect attrition, retention, and in part, account for differing recruiting success among the services.
- The item with the greatest difference between the Armed Forces and the full time employed civilian males was satisfaction with pay. (It was the item with the second greatest difference for females.)
- The average monthly pay (Regular Military Compensation) of Armed Forces males is as much as 12 percent less than the average monthly pay of the full time employmed males who work the entire year. For male high school graduates, the Armed Forces' average pay is up to 18 percent less.
- High School graduate, Armed Forces females earn an average of about 16 percent more pay than their civilian counterparts. Nevertheless, military females were still less satisfied with pay than females in the civilian labor market.
- Perceived pay by Armed Forces personnel is most likely less than the pay calculated by use of the Regular Military Compensation formula. In particular, the value of what the Government imputes to individuals who live in barracks may not equal the value the individual assigns to such accommodations with their attendent disamenities. If so, then pay perceptions may well be a major contribution to relative pay dissatisfaction for military personnel.

THE CORRELATES OF THE INTENTION TO REENLIST FOR FIRST TERM PERSONNEL (Chapter 4)

- About 25 percent of males and 38 percent of females in the sample expressed positive reenlistment intentions.

- Surprisingly, reenlistment intention rates are negatively correlated with length of service. The longer one serves (within the first term of service) the less likely the expression of positive reenlistment intentions.
- Marital status had a differential effect on reenlistment intention, by sex. Married males were more likely to express such intentions and married females, less likely.
- Military personnel from families with lower socioeconomic status had a higher reenlistment intention rate.
- Length of formal or school training did not play an important role in reenlistment intentions. The trained service personnel, while more valuable to the services, also may be better able to find civilian employment due to their training.

POST SERVICE STATUS OF PERSONS WHO LEFT THE ARMED FORCES (Chapter 5)

The youth of the sample at the time of the first interview meant there were few in the sample who had separated from the services. The only analysis possible was a comparison of men leaving before the completion of their contract and persons who never served. The conclusions are highly tentative.

- There were no substantial differences in employment to population ratios between those who have served in the Armed Forces and those who had not.
- Employment conditions for the veterans were similar in pay and job satisfaction. Veterans were more likely to be in service jobs and less likely to be in professional and managerial jobs.
- Those who attrite from the Armed Forces are much less likely than non-veterans to be enrolled in college.

INTENTIONS TO SERVE (Chapter 6)

The interview schedule provided for two items relating to military service. First, the respondent was asked about whether or not service in the military would be a good thing for a young person. Second, the respondent

was asked about his/her future plans--whether or not he or she would definitely enlist, probably enlist or probably or definitely not enlist. The second question focused on the respondent's expected behavior as opposed to a generalized feeling about service.

- Approximately three-fourths of all young people (aged 14 through 21) believed service in the armed forces is a good thing. There was little variation by race; however, proportions with positive attitudes generally increased with age, and females were slightly more positive than males. Those who expressed positive enlistment intentions are distributed as follows:

	Males		Females	
	Number	Percent	Number	Percent
Age 18-21	1,200,000	16	590,000	7
Age 14-17	2,710,000	35	1,010,000	13
High School Seniors	330,000	21	150,000	10

- The intention to enlist was higher among minorities, youth with lower socioeconomic backgrounds, youth who do not expect to go to college, the unemployed, married youth, and youth who have not attended college.

REASONS FOR NOT SERVING (Chapter 6)

Respondents 18-21 who had talked to a recruiter and did not enlist supplied a reason for nonenlistment.

- The reasons cited most often were to go to school, to do something else and because the youth thought that he or she would dislike the military.
- When the nonenlistees' activities at the time of the survey were examined, almost 40 percent were enrolled in school and about two-thirds were employed.

- The frequent listing of school attendance as a reason for not joining and the high enrollment rates suggest that increased educational incentives may be more effective means of increasing enlistments than direct pay increases.

THE ROLE OF SIGNIFICANT OTHERS ON THE ENLISTMENT DECISION (Chapter 6)

Respondents aged 14-17 were asked who influenced them the most on major life decisions.

- Parents were named by 70 percent of the respondents, peers by 12 percent, and all other possibilities by a few percent each. The 14-17 year olds were then asked how their important other would view seven hypothetical decisions, among which were "join the Armed Forces" and "not go to college."
- Parents were seen to be mildly in favor of sons joining the armed forces, and mildly opposed for daughters. Of the seven item array, parents were most negative on "not go to college."
- As in the data on reasons for not joining, the significant other data suggest that educational incentives may be very important in eliciting parental support for a decision to join the Armed Forces.

CHAPTER 1

INTRODUCTION

Ever since the termination of the draft in 1972, discussions about the success of the All-Volunteer Force (AVF) have revolved around the quality and number of enlistees and the racial composition of the armed forces. In recent years, the high separation rates of first-term enlistees also have evoked concern. These problems are interrelated. More stringent recruitment policies and additional occupational training will improve the quality of those who serve and lower attrition rates, since separation rates of higher-quality enlistees are known to be lower than the rates for lower-quality personnel. At the same time, however, the number of persons in the age groups from which recruits are drawn is declining, thus requiring a lowering of standards and/or an increase in the proportion of youth who apply to the services, if the size of the Armed Forces is to be maintained. The latter alternative is obviously preferable but must occur within budget constraints. It is obvious that while the difficulties are substantial, a successful resolution of the recruitment, racial composition, and retention problems is a necessary condition for sustaining the AVF system.

In this report we investigate some of these issues as well as others using the 1979 data of the National Longitudinal Surveys. Chapter 2 provides the basic overview for subsequent discussions. In this chapter we distribute the total population of youth 18 to 21 years of age by their survey week activity and study the extent to which the characteristics of those serving in the armed forces differ from those in the civilian sector. The intent here is to document

the participation rates of youth in the military and to quantify the degree to which specific demographic and socioeconomic groups are represented in the Armed Forces.

In Chapter 2 we also compare the characteristics of the youth who serve with those who are employed full time in the civilian sector. Our purpose is to determine whether the Armed Forces are drawing youth who are above or below the average for the noncollege bound. We control for the race and sex of the respondent in this chapter as well as in all other chapters where sufficient sample sizes permit.

Chapter 3 focuses on the perceptions of the quality of employment and job satisfaction of members of the Armed Forces and those in the civilian labor market working full time. A discussion of the large differential in pay satisfaction between these two groups is related to actual and perceived pay of servicemen and women. Some of the implications of differences in job satisfaction between branches of the service are also discussed.

Chapter 4 addresses yet another issue that is of considerable importance to specialists interested in the size and stability of the Armed Forces, namely the reenlistment rate. Our sample of reenlistees is not large enough at this time to conduct a separate analysis. However, reenlistment intentions were asked and we identify a number of factors expected to influence the reenlistment decision. Among the factors studied are the enlistees' job satisfaction, tenure, extent and type of armed forces training, health status, sex and race.

The issue of separation from the Armed Forces is the focus of the analysis and discussion in Chapter 5. The universe consists of male youth who had left military service prior to completing their tour of duty. Our primary interest is to compare the work and school experiences

of these individuals with those of men who never served. We also investigate, for those who find employment, selected characteristics of their jobs, such as the kind of work, average hourly earnings, and extent of job satisfaction. We are interested in how this supposedly inferior group of servicemen (i.e. they were unable to "make it" in the military) fares in the civilian sector. In future years, as our sample of persons separating from the service increases, we will assess the success of all those who separate.

In Chapter 6 our focus shifts from those who are currently serving to those who have never served in the Armed Forces. We try to identify potential entrants into the Armed Forces by their expression of a positive attitude toward the services and an intention to enlist. We profile these attitudes by a number of demographic, familial, labor market and schooling characteristics. The chapter closes with a discussion of the reasons why eligible individuals with a high propensity to serve choose not to enlist.

The Sample

The data are based on interviews with 12,693 youth who were born in the calendar years 1957 through 1964, i.e., persons who were fourteen to twenty-one as of January 1, 1979. A majority of these young people, 11,412, were selected from over 70,000 households which were screened for eligible youth. The respondents came from 160 different Standard Metropolitan Statistical Areas and counties and were selected to provide a nationally representative sample. In addition, the sample was stratified by sex in order to yield approximately equal numbers of men and women, and there was oversampling of Hispanic; non-Hispanic black; and non-Hispanic, non-black, poor youth. As a result, the sample

is composed of the following: 1,872 Hispanic youth (923 males, 949 females), 2,921 non-Hispanic black youth (1,443 males, 1,478 females), 1,671 non-Hispanic, non-black youth who met the poverty criteria[1], (756 males, 915 females), and a cross section of 4,949 non-Hispanic, non-black youth (2,456 males, 2,493 females).[2]

An additional sample of 1,281 persons within the age group who were serving in the Armed Forces on September 30, 1978 were interviewed. These individuals were selected from a list provided by the Armed Forces. Unlike the sample of nonmilitary youth, the military sample included persons serving overseas as well as those serving in the United States. Further, this sample was selected to yield approximately two-thirds males and one-third females, a heavy over-representation of females. Fuller details of the sampling and weighting may be found in Chapter 7.

In the analyses which follow, persons are identified by their characteristics when interviewed[3] --between the end of January, 1979 and August, 1979. The vast majority of interviews were completed during the months of February, March, April, and May. In some cases, where the variables being examined are likely to be affected by seasonality, individuals who were interviewed after May, 1979 are assumed to be distributed proportionately to those interviewed earlier. In addition,

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[1] The poverty lines were taken from the Office of Management and Budget Guidelines and adjusted by the change in the Consumer Price Index between January and October, 1978.

[2] The cross section included youth from poverty households as well as non-poor households.

[3] Exceptions are racial-ethnic designation and sex, which were gathered in the household screeners conducted between September, 1978 and March, 1979 or from military records.

information on civilian or military status is as of the date of interview. Consequently, individuals who were selected from the military list but had become civilians are included in the civilian totals. Likewise, persons who were civilians when originally selected for the sample who had entered the military between the time of screening and interview are included as serving in the military. All individuals were assigned a weight indicating their probability of being selected and interviewed. These weights were used in generating the data presented here. They will be adjusted somewhat in future reports.

Future Reports

Because of its preliminary nature, this report does not include all of the questions of interest asked in the Youth Survey, nor does it provide detail by some independent variables like branch of service. These shortcomings are due to limitations on time and the necessity to revise some of the original information. Subsequent reports will add to the areas studied, complete and refine the analyses presented here, and offer further suggestions for military personnel policy.

CHAPTER 2

PARTICIPANTS IN THE ALL VOLUNTEER FORCE AND THEIR QUALITY

The foundation of an all volunteer force is its ability to recruit and retain sufficient numbers of high quality enlistees. Further, it is generally held that the composition of the Armed Forces should reflect participation from all segments of the overall population. This chapter is devoted to examining two sets of questions: (1) What proportion of different groups in society are serving in the Armed Forces? and (2) What are the characteristics of youth serving in the Armed Forces compared with youth who are employed full time in the civilian sector?

Some facts concerning participation in the Armed Forces are widely known: (1) the participation rate of blacks exceeds that of other racial groups and (2) the proportion of females in the service is small even though in recent years it has been increasing rapidly.[1] However, many other questions remain. When the military manpower system shifted from the draft to the all volunteer force, it was hypothesized that the Armed Forces would become heavily populated with volunteers from the lower socioeconomic segments of the population.[2] These individuals were thought to have fewer opportunities for schooling and work in the civilian sector. Likewise, it was thought that the educational attainment and intellectual ability of the enlistees would be low because these groups could not find "better" opportunities in the

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[1] Women comprised 14 percent of all enlistee accessions in the first quarter of 1979.

[2] See The Report of the President's Commission on All Volunteer Armed Force, U.S.G.P.O., 1970

civilian sector. On the other hand, the availability of post-service educational benefits has been cited as an inducement to enlist in the Armed Forces.[3] This would argue that persons seeking higher education would be more likely to enlist. One would also expect the Armed Forces to attract persons in better than average health.

Participation Rates[4]

Table 2.1 presents the approximately 600,000 persons serving in the Armed Forces as a percentage of the total population of 16,475,000 18-21 year olds, and who have not previously served.[5] These participation rates appear by sex and race. As expected, the participation rate of males (6.7 percent) is more than ten times that of females (0.6 percent) and the black youth participation rate is about 1.5 times that of whites. Further, participation rates for men are almost two times higher for 20-21 year olds than they are for 18-19 year olds. This is not true for women, however, who have similar participation rates for both age groups.

One would expect that fewer married individuals would choose to serve in the Armed Forces. This is not the case, however, among males. The proportion of married men who serve in the Armed Forces is approximately double that of men who have never married.[6] The participation rate of married men is particularly high among blacks where it is more than three times that of the never marrieds. While we cannot say at this time whether these young men were married when they enlisted, the high

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[3] David Gottlieb, Babes in Arms, University of Houston, 1979.

[4] Data on the characteristics of the population are measured at the time of the interview unless another date is mentioned specifically.

[5] Persons serving in the National Guard or Reserves are included in the civilian population, but not among the armed forces which includes only the active forces.

[6] The 2.5 percent of the population who were widowed, separated, or divorced were excluded from this comparison.

Table 2.1 Participation Rates in the Armed Forces Among Youth 18-21 Years of Age, by Sex, Race and Other Selected Characteristics: 1979

Race and sex / Characteristic	Males				Females			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total respondents	6.7	9.7	7.6	6.1	0.6	0.8	0.5	0.6
Education of parent[a]								
Less than 12 years	6.8	7.2	5.2	7.1	0.7	0.5	0.3	0.8
12 years	6.8	11.3	8.1	6.2	0.6	1.2	0.9	0.5
13 years or more	6.0	11.8	10.8	5.4	0.6	0.7	0.5	0.5
Occupation of parent[b]								
Professional or managerial	5.0	11.0	9.1	4.5	0.5	0.8	0.8	0.4
Sales, clerical	5.9	8.6	9.8	5.5	0.5	1.1	0.2	0.4
Blue collar	7.5	10.7	8.2	7.0	0.7	0.5	0.6	0.8
Service	9.2	10.0	8.0	9.0	0.8	1.6	0.0	0.5
Education of respondent								
Less than 12 years	5.2	3.1	4.8	5.8	0.2	0.0	0.0	0.3
12 years or more	7.4	15.7	10.4	6.2	0.7	1.3	0.9	0.7
Educational expectation								
Less than 12 years	1.6	0.7	0.0	2.0	0.3	0.0	0.0	0.4
12 years	5.1	5.1	5.8	5.1	0.3	0.2	0.2	0.3
13-15 years	9.6	16.4	17.5	8.0	0.6	1.0	0.8	0.5
16 years or more	7.6	12.8	8.0	6.8	0.9	1.2	0.7	0.9
Knowledge of the world of work score								
0-5	6.1	7.1	6.1	5.5	0.2	0.4	0.2	0.1
6	6.5	6.4	11.0	6.1	0.8	0.6	0.3	0.8
7	7.1	11.9	10.8	6.3	0.6	0.9	0.6	0.6
8-9	6.8	20.2	5.7	6.2	0.8	1.9	1.6	0.7
Marital status								
Married	11.7	31.0	6.3	10.7	0.6	1.0	0.4	0.6
Never married	5.8	8.3	7.4	5.3	0.6	0.7	0.5	0.5
Internality (Rotter) score								
4-8	6.3	8.6	7.7	5.9	0.7	0.7	0.6	0.7
9-16	7.3	11.3	7.8	6.5	0.5	0.9	0.3	0.4

Table 2.1 continued

Race and sex / Characteristic	Males				Females			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Health status								
Does not affect work	6.6	9.9	7.6	6.0	0.6	0.7	0.5	0.6
Affects work	7.0	6.8	6.5	7.1	0.7	2.2	0.0	0.5
Age								
18-19 years	4.6	6.1	6.3	4.2	0.5	0.8	0.2	0.5
20-21 years	8.8	13.9	8.9	8.0	0.6	0.8	0.7	0.6

[a]Years of school completed by the parent in the household with the highest educational attainment.

[b]One-digit occupation group of father's job. If father is absent from household and mother present, then occupation group of mother's job.

participation rates of this group do imply high costs for the services since marriage is usually associated with a greater number of dependents who will require additional benefits such as quarters, allowances and medical care.

Two variables have been selected to measure the socioeconomic background of youth--occupation and educational attainment of the youth's parents.[7] Examination of these two variables show conflicting trends, particularly among the males. Contrary to the expectation that mainly youth from lower socioeconomic backgrounds would participate in the Armed Forces, among black and Hispanic young men we find higher participation rates as parents education increases. This expectation is supported somewhat, however, among white males, where the inverse relationship is observed. There does not appear to be any pattern among blacks and Hispanics when parents' occupation is examined, while among whites the participation rates of those with professional and managerial parents are lower. These reversals of participation rates are one of several pieces of evidence that indicate that minorities, particularly blacks, from better backgrounds and with better credentials are disproportionately attracted to the armed forces; for whites, this is not the case.

Another indication of higher than average participation rates among better qualified minority youth is the proportion of high school

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[7] Parents' education was defined as the highest number of years of schooling completed by either parent. Parents' occupation was defined as that of the father except in cases where information on the father was unavailable, the mothers' occupation was used. If the information was missing for both parents or the parents' occupation was in farming, the individual was excluded form the analysis.

graduates who participate in the military. For whites, the proportions of male graduates and dropouts are nearly identical. On the other hand, among Hispanic youth, twice the percentage of graduates participate, and the participation rate for black males who have completed high school is five times higher than for those who are high school dropouts. Similar patterns exist among the women, although very few have not completed high school.

If we examine scores on a knowledge of the world of work scale (KOWW), we find the same patterns. Although this scale was constructed to measure young people's knowledge of various occupations, it has in the past been shown to correlate significantly with mental ability. Since we do not yet have a direct measure, we have decided to use KOWW as a proxy indicator of mental ability.[8] There is somewhat lower than average participation in the Armed Forces among persons scoring from 0-5, as would be expected, given the mental ability standards applied by the services. Among whites the proportion who participate in the military is approximately the same for all with scores above 5. For blacks, though, there is a marked increase in the participation rate as KOWW score increases; those scoring 8 or 9 are more than three times as likely to participate in the military as are those scoring 6.

Finally, one sees the same pattern when examining the participation rate associated with the number of years of schooling which the young people expect to complete. There are very few in the military who do not expect to complete high school. This arises in part from the relatively high percentage of persons serving who have already completed the twelfth

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[8] The scores run from 0-9 and indicate how many occupations could be correctly identified. For entire population of youth, the mean score was between six and seven; the scores increased with age, and minority youth scored markedly lower.

grade. However, the participation rates of persons who expect to complete some college are higher than those of youth who expect to complete only twelve years of school. This is particularly true among the minorities. It appears that many of those serving in the military view it as a means to gain higher education or at least do not view service and college attendance as mutually exclusive.[9]

It is interesting to note that most of these relationships hold when the universe is restricted to high school graduates. This is seen in Table 2.2. Again, we find high participation rates among the older youth; the married males; minority males whose parents had more education; white males whose parents had less schooling; blacks who have higher scores on the knowledge of the world of work test and among all groups who expect to complete some college. The only noticeable differences between the high school graduates and all youth are somewhat lower participation rates among black males whose parents are professionals or managers (a small group) and stronger evidence that minority males who participate are drawn from persons who feel they have less control over events around them.[10]

The most striking finding on the participation of youth in the military is the higher participation rate among minorities from higher socioeconomic backgrounds and with better qualifications. The reason for this is not clear. One possible explanation is the relative lack of discrimination in the armed forces when compared with civilian

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[9] No substantial differences are found in the health status and the internality of the respondents.

[10] This last finding is highly tenative, however, since the higher degree of externality among the armed forces personnel may reflect their experiences while in the military service rather than the attitudes of the young men at the time they entered.

Table 2.2 Participation Rate in the Armed Forces Among Youth 18-21 Years of Age with 12-15 Years of School Completed, by Sex, Race and Other Selected Characteristics: 1979

Race and sex / Characteristic	Males				Females			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total respondents	7.4	15.7	10.4	6.2	0.7	1.3	0.9	0.7
Education of parent[a]								
Less than 12 years	9.8	11.9	9.4	9.1	1.3	1.1	0.8	1.4
12 years	7.7	17.3	9.8	6.6	0.7	1.8	1.3	0.6
13 years or more	5.9	15.7	11.9	5.1	0.5	0.9	0.6	0.5
Occupation of parent[b]								
Professional, managerial	4.8	10.3	10.8	4.4	0.5	1.0	0.9	0.4
Sales, clerical	6.5	16.0	6.3	5.9	0.5	1.4	0.3	0.5
Blue collar	8.9	17.3	13.2	7.6	1.0	0.7	1.2	1.0
Service	10.1	16.0	6.6	8.5	1.3	2.6	0.0	0.8
Educational expectations								
12 years	5.0	10.1	6.2	4.5	0.4	0.7	0.6	0.4
13-15 years	9.7	21.0	17.9	7.7	0.7	1.3	1.0	0.5
16 years or more	7.8	15.7	8.7	6.7	1.0	1.5	0.9	0.9
Knowledge of the world of work score								
0-5	9.5	14.0	11.7	7.3	0.4	0.8	0.4	0.2
6	6.4	10.9	12.7	5.1	1.0	1.0	0.5	1.1
7	7.7	14.8	16.5	6.5	0.6	1.2	0.8	0.6
8-9	6.9	22.4	4.5	6.1	0.9	2.2	1.9	0.8
Marital status								
Married	14.8	43.5	c	12.8	0.9	1.6	1.1	0.8
Never married	6.4	13.7	9.6	5.3	0.7	1.2	0.8	0.6
Internality (Rotter) score								
4-8	6.7	12.5	8.3	6.1	0.8	1.1	1.0	0.8
9-16	8.5	19.6	13.3	6.6	0.6	1.5	0.8	0.5

Table 2.2 continued

Characteristic \ Race and sex	Males				Females			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Health status								
Does not affect work	7.3	15.6	10.8	6.2	0.7	1.0	0.9	0.7
Affects work	8.3	18.3	0.0	7.6	1.0	3.8	0.0	0.7
Age								
18-19 years	5.4	11.6	10.1	4.5	0.7	1.6	0.4	0.6
20-21 years	8.7	18.5	10.5	7.5	0.8	1.0	1.2	0.7

[a]Years of school completed by the parent in the household with the highest educational attainments.

[b]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[c]Less than 25 sample cases.

pursuits. For more capable minority males, participation in the military may offer more opportunities for advancement and success than do civilian pursuits, while this may not be true for whites. This explanation is unsupported by the finding that higher quality minority persons are more likely to apply for enlistment (See Chapter Six, below). Another hypothesis is that the standards the services use to accept recruits exclude a larger proportion of minorities than whites who come from lower socioeconomic backgrounds or have not completed high school. We are unable to test this hypothesis directly because at this time our sample does not contain a sufficient number of persons who have been rejected by the military.

Quality of Armed Forces Personnel

The preceding section on participation rates speaks to the representativeness of the Armed Forces. Of equal or greater importance is the relative quality of individuals who serve in the military when compared to persons in other pursuits. Earlier, we stated the hypothesis that the all volunteer force would be more attractive to persons whose opportunities in the civilian labor market were limited--persons with less education, lower ability and from lower socioeconomic backgrounds. In this section we compare youth in the services with the highest quality out of school youth to determine whether Armed Forces personnel are markedly superior or inferior. We have selected as a comparison group youth whose primary status is full-time civilian employment.[11] We focus on this group because these are the individuals who have chosen full-time employment in the civilian sector as opposed to full-

[11] Excluded from this group are persons who are full-time employees but who attend high school or are full-time college students.

time employment in the Armed Forces. These individuals have the jobs which may be thought of as competing with service in the Armed Forces.

Tables 2.3 and 2.4 indicate the differences between the characteristics of active Armed Forces personnel and the full-time employed youth, 18-21 years of age, who have not completed college.[12] Among white males the Armed Forces personnel and youth employed full time in the civilian labor market are highly similar. They are alike in the proportion with health conditions that affect their work, the proportion who are married, the level of mental ability as measured by the score on the knowledge of the world of work test, their degree of internality, the proportion who completed high school, the distribution of their parents' occupation and their parents' education.

The Armed Forces group appears to be greatly superior to their civilian counterparts among male minorities, however. More of the servicemen come from families where a parent had graduated from high school. The educational attainment of the young men serving in the Armed Forces was higher than among the full-time employed; 85 percent of the black and 68 percent of the Hispanic servicemen had completed high school while the corresponding figures for those employed in full-time civilian jobs were 57 and 48 percent, respectively. In addition, the percentage of minority men who were below the mean score on the KOWW test was substantially lower for the men in the Armed Forces.[13]

Finally, many more of the servicemen in the three racial-ethnic groups expected to complete college than was true of the civilian full-

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[12] Again, persons who previously served are excluded from the civilian group.

[13] The other factors were about the same for minorities in the service and employed full time in civilian jobs.

Table 2.3 Comparison of Selected Characteristics of Male Youth 18-21 Years of Age in Armed Forces and At Work Full-Time In Civilian Job, by Characteristic, Survey Week Activity and Race: 1979

(Percentage distribution)

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Total number (000)	549	3264	106	321	37	195	405	2748
Education of parent[a]	100	100	100	100	100	100	100	100
Less than 12 years	23	26	30	48	47	69	20	21
12 years	45	50	45	37	31	24	46	53
13 years or more	32	24	25	15	22	8	34	26
Occupation of parent[bc]	100	100	100	100	100	100	100	100
Professional or managerial	23	22	14	13	18	11	26	23
Sales, clerical	11	12	8	7	11	5	12	13
Blue collar	52	53	54	52	54	49	51	53
Service	12	8	23	21	18	13	10	7
Education of respondent	100	100	100	100	100	100	100	100
Less than 12 years	25	26	15	43	32	52	27	22
12 years or more	75	74	85	57	68	48	73	78
Educational expectations	100	100	100	100	100	100	100	100
Less than 12 years	2	11	1	13	0	23	2	10
12 years	27	49	18	41	24	43	29	50
13-15 years	26	25	29	26	39	15	24	25
16 years or more	46	16	52	21	37	20	45	15
Knowledge of world of work score	100	100	100	100	100	100	100	100
0-5	21	23	39	55	37	49	15	18
6	14	16	10	16	26	15	13	15
7	21	22	20	17	21	14	22	23
8-9	44	39	31	12	16	21	50	44
Marital status	100	100	100	100	100	100	100	100
Married	18	17	15	9	11	20	19	18
Never married	82	83	85	91	89	80	81	82

Table 2.3 continued

Characteristic \ Race, survey week activity	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Internality (Rotter) score	100	100	100	100	100	100	100	100
4-8	53	54	42	49	49	45	57	55
9-16	47	46	58	51	51	55	43	45
Health status	100	100	100	100	100	100	100	100
Does not affect work	95	96	96	98	95	96	95	96
Affects work	5	4	4	2	5	4	5	4

[a]Years of school completed by parent in the household with the highest educational attainment.

[b]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[c]Excludes employment in farming

Table 2.4 Comparison of Selected Characteristics of Female Youth 18-21 Years of Age In Armed Forces and At Work Full-Time In Civilian Job, by Characteristic, Survey Week Activity and Race: 1979

(Percentage distribution)

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Total number (000)	49	2623	9	231	2	143	37	2249
Education of parent[a]	100	100	100	100	100	100	100	100
Less than 12 years	29	26	30	44	50	65	27	22
12 years	41	49	50	39	50	24	38	52
13 years or more	31	25	20	18	0	11	35	27
Occupation of parent[b]	100	100	100	100	100	100	100	100
Professional or managerial	20	22	14	15	0	18	23	23
Sales, clerical	11	14	14	11	0	4	11	15
Blue collar	53	50	29	53	100	57	57	50
Service	13	9	43	20	0	11	9	8
Education of respondent	100	100	100	100	100	100	100	100
Less than 12 years	8	16	0	10	0	34	11	15
12 years or more	92	84	100	90	100	66	89	85
Educational expectations	100	100	100	100	100	100	100	100
Less than 12 years	4	7	0	2	0	14	5	7
12 years	18	45	10	31	0	33	19	47
13-15 years	22	30	30	34	50	32	22	29
16 years or more	55	19	60	33	50	22	54	17
Knowledge of world of work score	100	100	100	100	100	100	100	100
0-5	10	25	22	46	0	38	5	22
6	18	14	11	12	0	24	18	13
7	22	25	22	20	50	21	24	26
8-9	50	36	44	21	50	17	53	39
Marital status	100	100	100	100	100	100	100	100
Married	25	25	16	18	26	31	27	26
Never married	75	75	84	82	74	69	73	74

Table 2.4 continued

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Internality (Rotter) score	100	100	100	100	100	100	100	100
4-8	63	54	44	46	50	46	68	55
9-16	37	46	56	54	50	54	32	45
Health status	100	100	100	100	100	100	100	100
Does not affect work	88	93	78	96	100	99	92	92
Affects work	12	7	22	4	0	1	8	8

[a]Years of school completed by parent in the household with the highest educational attainment.

[b]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[c]Excludes employment in farming

time employed. Overall, 46 percent of the young servicemen expected to complete college as opposed to 16 percent of the full-time employed.

Among the young women similar patterns appear. About the same proportions of both groups of all races are married and have parents in the various occupational categories. Again, the educational expectations of the servicewomen are markedly higher: over half expect to complete college as compared with less than one in five among the full-time employed. We also find that the minority women in the service are superior to their civilian counterparts in several respects: more of them and their parents have completed high school, and their scores on the knowledge of the world of work test are considerably higher. Differences between the two groups of women which were not evident for the men are health conditions and degree of internality. Black servicewomen appear to have much higher proportions than employed civilians who say they have a health condition which affects or limits the amount of work they can do.[14] With regard to degree of internality, white servicewomen appear to believe that they have less control over their environment than do their civilian counterparts.[15]

In conclusion, there can be little doubt that the quality of the young people serving in the military forces is at least equal to and for minorities, superior to the comparable group in the civilian sector.[16]

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[14] The number of persons involved here is so small that the finding could very well be due to chance.

[15] The same differences between military personnel and the persons employed full time in civilian jobs were observed for both men and women who were high school graduates. See Appendix A, Tables A.24 and A.25.

[16] Although the minority service personnel are superior to their civilian counterparts while white service men and women are not, this does not mean that the minorities serving in the Armed Forces are more qualified than whites in the military. Comparison of the fourth, sixth and eighth columns in Tables 2.3 and 2.4 shows this not to be the case.

Our data indicate that the aggregate Armed Forces are drawing recruits of high quality, relative to the pool of out-of-school youth employed full-time.[17]

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[17] It should be noted, however, that on average, the highest "quality" groups are those youth who are enrolled in college. On the other hand, the civilians employed full time should be better qualified than those who are employed only part time, are unemployed, or are out of the labor force.

APPENDIX A

The universe for this chapter consists of individuals 18 to 21 years of age with less than 16 years of school completed. It excludes those who have served previously in the Armed Forces.

Respondents are assigned to one of the following mutually exclusive survey week activity categories. The assignment is hierarchical in the sense that an individual who is engaged in more than one activity is assigned to that with the highest priority. The definition of each of these activities and its priority status is as follows:

Armed Forces — Individuals currently serving in the Armed Forces are classified in this activity regardless of civilian sector enrollment and employment status.

Civilian Sector

Enrolled

- **High school** — Individuals who are not serving but who are currently enrolled in high school are assigned to this category.
- **College** — Individuals who are not serving, but are enrolled in college, except for those enrolled part time who work full time, are assigned to this activity. The part-time student working full time is assigned to the full time employed category.

Not Enrolled

- **Employed, full time** — Out of school youth (except the part time college student at work full time) who are not serving and who are working or usually work at least 35 hours per week are assigned to this category.
- **Employed, part time** — Out of school youth who are not serving and are at work, or usually work, less than 35 hours per week comprise this category.

Unemployed	This category includes out of school youth who are not working and who are actively seeking work.
Not in labor force	Any individual who is not classified into any of the previous categories is assigned to this activity.

Even though we mainly focus on the characteristics of those who serve, and then compare their attributes with those employed full time, we also distribute our sample cases across the survey week activities by characteristic. This appendix indicates the participation rates for all seven groups.

The lower attrition rates and higher productivity of enlistees with at least 12 years of school completed make this group particularly attractive to the Armed Forces. We, therefore, present a comparable set of tables targeted at this group.

Table A.1 . Distribution of Male Population 18-21 Years of Age, by Age, Race, and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Age, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Ages, 18-21	8239	100.0	6.7	12.8	25.9	39.6	5.3	6.3	3.5
18-19	4205	100.0	4.6	23.5	23.0	33.3	5.3	6.5	3.9
20-21	4038	100.0	8.8	1.7	28.9	46.2	5.2	6.1	3.1
	Black								
Ages, 18-21	1088	100.0	9.7	18.1	17.0	29.5	7.3	11.4	7.0
18-19	581	100.0	6.1	32.1	15.5	20.6	6.6	10.2	8.9
20-21	507	100.0	13.9	2.0	18.6	39.7	8.1	12.7	4.8
	Hispanic								
Ages, 18-21	495	100.0	7.6	15.7	17.5	39.3	4.6	7.5	7.8
18-19	254	100.0	6.3	29.6	13.4	33.4	4.2	6.4	6.7
20-21	241	100.0	8.9	1.0	21.8	45.6	4.9	8.7	9.1
	White								
Ages, 18-21	6658	100.0	6.1	11.7	28.0	41.3	5.0	5.3	2.6
18-19	3370	100.0	4.2	21.5	25.0	35.4	5.2	5.8	2.9
20-21	3291	100.0	8.0	1.7	31.0	47.2	4.7	4.9	2.4

[a]Excludes individuals with prior service in the Armed Forces.

Table A.2 Distribution of Female Population 18-21 Years of Age, by Age, Race and Survey Week Activity: 1979

(Population distribution)

Survey week activity / Age, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Ages, 18-21	8258	100.0	0.6	8.8	26.2	31.7	8.5	9.3	15.0
18-19	4243	100.0	0.5	16.3	29.2	24.5	8.0	9.5	11.9
20-21	4046	100.0	0.6	0.8	23.1	39.1	8.9	9.1	18.3
	Black								
Ages, 18-21	1184	100.0	0.8	14.6	22.7	19.5	5.8	17.0	19.6
18-19	602	100.0	0.8	26.7	20.0	12.9	5.5	17.2	16.9
20-21	582	100.0	0.8	2.2	25.5	26.3	6.1	16.7	22.4
	Hispanic								
Ages, 18-21	523	100.0	0.5	10.2	18.6	27.3	6.2	9.1	28.0
18-19	263	100.0	0.2	18.3	18.5	25.0	3.6	9.6	24.8
20-21	260	100.0	0.7	2.1	18.7	29.6	8.9	8.6	31.3
	White								
Ages, 18-21	6580	100.0	0.6	7.6	27.5	34.2	9.1	8.0	13.2
18-19	3378	100.0	0.5	14.3	31.7	26.6	8.8	8.2	10.0
20-21	3204	100.0	0.6	0.5	23.0	42.2	9.5	7.8	16.5

[a]Excludes individuals with prior service in the Armed Forces.

Table A.3 Percent of Total Population With 12-15 Years of School Completed, by Age, Sex and Race: 1979

Race, sex / Age	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Ages, 18-21	67.8	71.6	52.5	49.1	72.4	76.1	61.3	51.1
18-19	55.4	59.4	40.4	37.8	63.9	68.5	48.5	40.3
20-21	80.6	84.2	66.3	61.0	81.3	84.1	74.6	62.3

Table A.4 Distribution of Male Population 18-21 Years of Age With 12-15 Years of School Completed, by Age, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Age, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Ages, 18-21	5582	100.0	7.4	38.2	43.4	4.3	4.1	2.6
18-19	2331	100.0	5.4	41.4	40.7	5.4	3.9	3.1
20-21	3253	100.0	8.7	35.9	45.3	3.6	4.3	2.2
	Black							
Ages, 18-21	571	100.0	15.7	32.4	31.8	6.2	10.0	4.0
18-19	235	100.0	11.6	38.4	28.1	5.5	9.8	6.5
20-21	336	100.0	18.5	28.1	34.5	6.6	10.1	2.2
	Hispanic							
Ages, 18-21	243	100.0	10.4	35.6	38.8	3.7	4.9	6.6
18-19	96	100.0	10.1	35.6	38.7	3.2	4.0	8.4
20-21	147	100.0	10.5	35.6	38.9	4.0	5.5	5.5
	White							
Ages, 18-21	4770	100.0	6.2	39.0	45.0	4.1	3.4	2.2
18-19	2001	100.0	4.5	42.0	42.3	5.5	3.3	2.4
20-21	2770	100.0	7.5	36.9	46.9	3.2	3.5	2.0

[a]Excludes individuals with prior service in the Armed Forces.

Table A.5 Distribution of Female Population 18-21 Years of Age With 12-15 Years of School Completed, by Age, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Age, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Ages, 18-21	6000	100.0	0.7	36.2	36.7	9.3	6.8	10.2
18-19	2711	100.0	0.7	45.8	30.8	9.1	6.7	6.9
20-21	3291	100.0	0.8	28.4	41.6	9.5	6.9	12.9
	Black							
Ages, 18-21	726	100.0	1.3	37.1	28.6	7.1	15.0	11.0
18-19	292	100.0	1.6	41.4	22.7	7.6	16.5	10.2
20-21	434	100.0	1.0	34.2	32.6	6.8	13.9	11.5
	Hispanic							
Ages, 18-21	267	100.0	0.9	36.5	35.1	9.9	3.7	14.0
18-19	106	100.0	0.4	46.1	32.5	5.7	1.8	13.4
20-21	162	100.0	1.2	30.2	36.7	12.6	5.0	14.3
	White							
Ages, 18-21	5008	100.0	0.7	36.1	38.0	9.6	5.8	9.9
18-19	2314	100.0	0.6	46.3	31.7	9.5	5.7	6.2
20-21	2695	100.0	0.7	27.3	43.3	9.7	5.9	13.0

[a]Excludes individuals with prior service in the Armed Forces.

Table A.6 Distribution of Male Population 18-21 Years of Age, by Education of Parent, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Parental education, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8239	100.0	6.7	12.8	25.9	39.6	5.3	6.3	3.5
Less than 12 years	1797	100.0	6.8	15.0	9.5	46.0	5.4	11.2	6.1
12 years	3428	100.0	6.8	13.8	18.9	46.0	5.9	5.6	3.1
13 years or more	2780	100.0	6.0	10.7	47.1	27.0	4.0	3.1	2.0
	Black								
Total	1088	100.0	9.7	18.1	17.0	29.5	7.3	11.4	7.0
Less than 12 years	404	100.0	7.2	19.7	11.8	34.8	5.8	13.3	7.4
12 years	392	100.0	11.3	20.8	15.1	28.1	8.4	10.5	5.9
13 years or more	202	100.0	11.8	11.2	37.2	21.4	7.9	5.5	5.0
	Hispanic								
Total	495	100.0	7.6	15.7	17.5	39.3	4.6	7.5	7.8
Less than 12 years	280	100.0	5.2	17.7	8.4	44.7	3.9	11.0	9.1
12 years	120	100.0	8.1	9.0	29.4	36.3	7.4	3.5	6.3
13 years or more	69	100.0	10.8	23.7	37.5	20.8	2.5	3.3	1.5
	White								
Total	6658	100.0	6.1	11.7	28.0	41.3	5.0	5.3	2.6
Less than 12 years	1113	100.0	7.1	12.6	8.9	50.3	5.7	10.5	4.9
12 years	2916	100.0	6.2	13.0	19.0	48.8	5.5	5.0	2.6
13 years or more	2509	100.0	5.4	10.3	48.2	27.7	3.7	2.9	1.8

[a]Excludes individuals with prior service in the Armed Forces.

Table A.7 Distribution of Female Population 18-21 Years of Age, by Education of Parent, Race, and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Parental education, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8285	100.0	0.6	8.8	26.2	31.7	8.5	9.3	15.0
Less than 12 years	2047	100.0	0.7	11.4	9.5	32.5	7.2	13.5	25.2
12 years	3375	100.0	0.6	7.9	20.5	37.7	10.1	9.8	13.4
13 years or more	2643	100.0	0.6	8.0	47.9	24.3	7.3	4.7	7.2
	Black								
Total	1184	100.0	0.8	14.6	22.7	19.5	5.8	17.0	19.6
Less than 12 years	489	100.0	0.5	17.3	15.9	19.5	5.0	16.9	25.0
12 years	399	100.0	1.2	13.4	21.9	21.1	7.4	18.9	16.1
13 years or more	216	100.0	0.7	11.4	44.2	17.7	4.3	14.2	7.4
	Hispanic								
Total	523	100.0	0.5	10.2	18.6	27.3	6.2	9.1	28.0
Less than 12 years	312	100.0	0.3	11.5	13.8	28.1	4.4	10.2	31.7
12 years	114	100.0	0.9	10.3	20.4	29.3	12.3	9.4	17.4
13 years or more	76	100.0	0.5	7.8	40.1	19.3	6.3	6.9	19.2
	White								
Total	6580	100.0	0.6	7.6	27.5	34.2	9.1	8.0	13.2
Less than 12 years	1246	100.0	0.8	9.1	5.9	38.7	8.8	13.0	23.7
12 years	2863	100.0	0.5	7.1	20.3	40.3	10.4	8.6	12.9
13 years or more	2350	100.0	0.5	7.7	48.5	25.1	7.6	3.8	6.8

[a]Excludes individuals with prior service in the Armed Forces.

Table A.8 Distribution of Male Population 18-21 Years of Age With 12-15 Years of School Completed, by Education of Parent, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Parental education, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	5582	100.0	7.4	38.2	43.4	4.3	4.1	2.6
Less than 12 years	792	100.0	9.8	21.5	51.8	4.3	8.5	4.1
12 years	2426	100.0	7.7	26.7	54.3	4.3	4.4	2.7
13 years or more	2308	100.0	5.9	56.8	29.0	4.1	2.3	2.0
	Black							
Total	571	100.0	15.7	32.4	31.8	6.2	10.0	4.0
Less than 12 years	183	100.0	11.9	26.1	40.9	3.9	12.0	5.2
12 years	216	100.0	17.3	27.5	33.9	6.9	9.8	4.6
13 years or more	144	100.0	15.7	52.1	18.0	6.5	6.4	1.2
	Hispanic							
Total	243	100.0	10.4	35.6	38.8	3.7	4.9	6.6
Less than 12 years	106	100.0	9.4	22.3	49.3	1.4	8.4	9.2
12 years	84	100.0	9.8	41.8	32.1	7.9	2.0	6.4
13 years or more	48	100.0	11.9	53.8	21.6	1.7	2.8	2.1
	White							
Total	4770	100.0	6.2	39.0	45.0	4.1	3.4	2.2
Less than 12 years	503	100.0	9.1	19.7	56.2	5.1	7.3	2.6
12 years	2126	100.0	6.6	26.0	57.2	3.9	3.9	2.3
13 years or more	2116	100.0	5.1	57.2	29.7	4.0	2.0	2.0

[a]Excludes individuals with prior service in the Armed Forces.

Table A.9 Distribution of Total Female Population 18-21 Years of Age With 12-15 Years of School Completed by Education of Parent, Race, and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Parental education, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	6000	100.0	0.7	36.2	36.7	9.3	6.8	10.2
Less than 12 years	1041	100.0	1.3	18.7	43.6	7.8	11.7	17.0
12 years	2608	100.0	0.7	26.5	42.7	11.4	7.1	11.5
13 years or more	2267	100.0	0.5	55.9	26.5	7.7	3.9	5.5
	Black							
Total	726	100.0	1.3	37.1	28.6	7.1	15.0	11.0
Less than 12 years	249	100.0	1.1	31.1	31.4	5.8	16.4	14.2
12 years	267	100.0	1.8	32.7	31.0	9.9	14.5	10.2
13 years or more	176	100.0	0.9	54.3	20.9	5.3	13.4	5.3
	Hispanic							
Total	267	100.0	0.9	36.5	35.1	9.9	3.7	14.0
Less than 12 years	122	100.0	0.8	35.3	40.5	7.7	4.0	11.7
12 years	77	100.0	1.3	30.1	33.7	15.9	2.1	16.9
13 years or more	63	100.0	0.6	48.5	21.6	7.6	5.7	16.0
	White							
Total	5008	100.0	0.7	36.1	38.0	9.6	5.8	9.9
Less than 12 years	670	100.0	1.4	11.0	48.7	8.5	11.3	19.0
12 years	2265	100.0	0.6	25.7	44.4	11.4	6.4	11.5
13 years or more	2028	100.0	0.5	56.3	27.1	7.9	3.0	5.2

[a]Excludes individuals with prior service in the Armed Forces.

Table A.10 Distribution of Male Population 18-21 Years of Age, by 1-Digit Occupation Group of Parent, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Occupation of parent, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8239	100.0	6.7	12.8	25.9	39.6	5.3	6.3	3.5
Professional, managerial	2217	100.0	5.0	10.5	49.7	28.6	3.0	2.7	1.2
Sales, clerks	878	100.0	5.9	14.7	30.0	39.1	3.8	4.1	2.4
Blue collar	3278	100.0	7.5	13.5	14.7	46.9	6.3	7.4	3.7
Service	648	100.0	9.2	8.6	19.7	36.4	8.9	9.9	7.3
	Black								
Total	1088	100.0	9.7	18.1	17.0	29.5	7.3	11.4	7.0
Professional, managerial	109	100.0	11.0	8.5	41.9	28.9	3.3	5.7	0.7
Sales, clerks	80	100.0	8.6	32.7	22.7	20.4	4.4	5.3	6.0
Blue collar	420	100.0	10.7	19.1	14.7	29.4	7.5	12.0	6.6
Service	194	100.0	10.0	14.3	17.1	25.9	11.0	12.4	9.4
	Hispanic								
Total	495	100.0	7.6	15.7	17.5	39.3	4.6	7.5	7.8
Professional, managerial	60	100.0	9.1	17.9	35.7	26.8	3.6	1.4	5.6
Sales, clerks	31	100.0	9.8	14.4	44.1	26.3	0.0	1.8	3.6
Blue collar	181	100.0	8.2	18.6	16.6	39.7	4.0	6.1	6.7
Service	61	100.0	8.0	7.5	15.1	31.8	10.7	12.6	14.2
	White								
Total	6658	100.0	6.1	11.7	28.0	41.3	5.0	5.3	2.6
Professional, managerial	2048	100.0	4.5	10.3	50.5	28.6	3.0	1.9	1.1
Sales, clerks	766	100.0	5.5	12.9	30.2	41.5	3.9	4.0	2.0
Blue collar	2676	100.0	7.0	12.3	14.6	50.2	6.2	6.8	3.0
Service	393	100.0	9.0	6.0	21.6	42.3	7.6	8.3	5.2

[a]Excludes individuals with prior service in the Armed Forces.

Table A.11 Distribution of Female Population 18-21 Years of Age, by 1-Digit Occupation Group of Parent, Race and Survey Week Activity: 1979 (Percentage distribution)

Survey week activity / Occupation of parent, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8285	100.0	0.6	8.8	26.2	31.7	8.5	9.3	15.0
Professional, managerial	2042	100.0	0.5	7.7	48.1	25.3	6.6	4.6	7.3
Sales, clerks	1040	100.0	0.5	6.3	31.3	32.4	11.4	8.3	9.9
Blue collar	3179	100.0	0.7	9.4	16.2	37.6	9.8	10.0	16.2
Service	759	100.0	0.8	10.8	17.3	29.6	8.1	13.4	20.1
	Black								
Total	1184	100.0	0.8	14.6	22.7	19.5	5.8	17.0	19.6
Professional, managerial	125	100.0	0.8	5.2	46.9	23.3	2.3	12.2	9.3
Sales, clerks	75	100.0	1.1	18.7	19.3	28.0	11.4	7.6	13.9
Blue collar	450	100.0	0.5	14.7	21.3	22.7	7.2	16.1	17.5
Service	221	100.0	1.6	16.2	22.9	17.4	3.8	21.4	16.7
	Hispanic								
Total	523	100.0	0.5	10.2	18.6	27.3	6.2	9.1	28.0
Professional, managerial	58	100.0	0.8	5.4	27.6	34.1	7.2	4.9	20.1
Sales, clerks	36	100.0	0.2	7.3	38.5	11.0	2.7	12.8	27.5
Blue collar	183	100.0	0.6	8.2	16.0	35.4	5.4	9.1	25.3
Service	61	100.0	0.0	20.6	16.0	21.2	5.8	12.0	24.4
	White								
Total	6580	100.0	0.6	7.6	27.5	34.2	9.1	8.0	13.2
Professional, managerial	1859	100.0	0.4	7.9	48.8	25.2	6.8	4.1	6.8
Sales, clerks	929	100.0	0.4	5.3	31.9	33.6	11.7	8.2	8.8
Blue collar	2547	100.0	0.8	8.6	15.4	40.4	10.6	9.0	15.3
Service	477	100.0	0.5	7.0	14.8	36.3	10.4	9.9	21.1

[a]Excludes individuals with prior service in the Armed Forces.

Table A.12 Distribution of Male Population 18-21 years of Age with 12-15 years of School Completed by 1-Digit Occupation Group of Parent, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Occupation of parent, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	5582	100.0	7.4	38.2	43.4	4.3	4.1	2.6
Professional, managerial	1859	100.0	4.8	59.3	30.3	3.1	1.4	1.1
Sales, clerks	654	100.0	6.5	40.2	43.9	3.7	3.2	2.5
Blue collar	2003	100.0	8.9	24.1	54.6	4.9	4.8	2.7
Service	405	100.0	10.1	31.5	38.6	6.2	7.7	5.9
	Black							
Total	571	100.0	15.7	32.4	31.8	6.2	10.0	4.0
Professional, managerial	87	100.0	10.3	52.3	29.1	3.2	5.1	0.0
Sales, clerks	35	100.0	16.0	52.5	10.6	5.5	12.3	3.1
Blue collar	225	100.0	17.3	27.4	34.3	5.7	9.8	5.6
Service	95	100.0	16.0	34.9	27.4	8.2	10.9	2.6
	Hispanic							
Total	243	100.0	10.4	35.6	38.8	3.7	4.9	6.6
Professional, managerial	42	100.0	10.8	51.5	29.5	0.0	0.0	8.1
Sales, clerks	21	100.0	6.3	66.0	27.7	0.0	0.0	0.0
Blue collar	84	100.0	13.2	36.0	40.5	3.1	1.7	5.5
Service	37	100.0	6.6	25.0	32.3	15.0	10.0	11.0
	White							
Total	4770	100.0	6.2	39.0	45.0	4.1	3.4	2.2
Professional, managerial	1730	100.0	4.4	59.8	30.4	3.1	1.2	1.0
Sales, clerks	599	100.0	5.9	38.6	46.4	3.8	2.8	2.5
Blue collar	1694	100.0	7.6	23.0	58.0	4.9	4.3	2.2
Service	273	100.0	8.5	31.2	43.4	4.3	6.3	6.4

[a]Excludes individuals with prior service in the Armed Forces.

Table A.13 Distribution of the Female Population 18-21 years of Age with 12-15 years of School Completed by 1-Digit Occupation Group of Parent, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Occupation of parent, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	6000	100.0	0.7	36.2	36.7	9.3	6.8	10.2
Professional, managerial	1712	100.0	0.5	57.4	26.7	6.7	3.7	5.0
Sales, clerks	863	100.0	0.5	37.7	37.3	11.6	4.5	8.4
Blue collar	2199	100.0	1.0	23.5	44.0	11.2	8.0	12.4
Service	481	100.0	1.3	27.2	38.5	9.4	10.5	13.1
	Black							
Total	726	100.0	1.3	37.1	28.6	7.1	15.0	11.0
Professional, managerial	103	100.0	1.0	56.8	28.2	2.8	5.7	5.5
Sales, clerks	58	100.0	1.4	25.2	33.7	14.9	9.9	14.9
Blue collar	289	100.0	0.7	33.1	31.4	9.1	15.3	10.3
Service	136	100.0	2.6	37.1	26.1	5.0	19.1	10.1
	Hispanic							
Total	267	100.0	0.9	36.5	35.1	9.9	3.7	14.0
Professional, managerial	48	100.0	0.9	33.2	38.8	8.6	3.9	14.5
Sales, clerks	27	100.0	0.3	51.3	14.7	3.5	3.9	26.3
Blue collar	95	100.0	1.2	30.8	46.6	9.2	1.5	10.8
Service	27	100.0	0.0	36.7	25.2	9.7	9.3	19.0
	White							
Total	5008	100.0	0.7	36.1	38.0	9.6	5.8	9.9
Professional, managerial	1561	100.0	0.4	58.2	26.3	6.9	3.6	4.7
Sales, clerks	779	100.0	0.5	38.1	38.3	11.7	4.2	7.3
Blue collar	1815	100.0	1.0	21.6	45.8	11.6	7.2	12.8
Service	318	100.0	0.8	22.2	44.9	11.3	6.9	13.9

[a]Excludes individuals with prior service in the Armed Forces.

Table A.14 Distribution of Male Population 18-21 years of Age, by Educational Expectation, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Educational expectation, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8239	100.0	6.7	12.8	25.9	39.6	5.3	6.3	3.5
Less than 12 years	616	100.0	1.6	3.2	0.2	55.9	11.1	18.6	9.4
12	2821	100.0	5.1	17.9	0.0	56.0	6.9	8.8	5.3
13-15	1462	100.0	9.6	10.8	12.0	54.1	5.3	5.7	2.5
16 years or more	3259	100.0	7.6	11.4	60.0	15.4	2.7	1.5	1.3
	Black								
Total	1088	100.0	9.7	18.1	17.0	29.5	7.3	11.4	7.0
Less than 12 years	86	100.0	0.7	7.5	0.0	47.4	13.6	16.8	14.0
12	375	100.0	5.1	27.4	0.0	34.7	7.4	15.3	10.2
13-15	186	100.0	16.4	10.9	7.3	43.6	5.2	12.9	3.7
16 years or more	420	100.0	12.8	16.1	40.8	15.5	5.8	5.6	3.4
	Hispanic								
Total	495	100.0	7.6	15.7	17.5	39.3	4.6	7.5	7.8
Less than 12 years	63	100.0	0.0	2.4	0.0	65.6	6.4	10.8	14.7
12	159	100.0	5.8	21.6	0.0	47.9	5.2	12.5	7.1
13-15	84	100.0	17.5	10.6	13.3	31.5	9.2	8.3	9.6
16 years or more	171	100.0	8.0	18.3	44.2	20.3	1.5	1.7	6.0
	White								
Total	6658	100.0	6.1	11.7	28.0	41.3	5.0	5.3	2.6
Less than 12 years	467	100.0	2.0	2.4	0.3	56.2	11.3	20.0	7.8
12	2286	100.0	5.1	16.1	0.0	60.0	7.0	7.5	4.3
13-15	1193	100.0	8.0	10.8	12.6	57.3	5.0	4.4	1.9
16 years or more	2669	100.0	6.8	10.2	64.1	15.1	2.2	0.9	0.7

[a]Excludes individuals with prior service in the Armed Forces.

Table A.15 Distribution of Female Population 18-21 Years of Age, by Educational Expectation, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Educational expectation, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8285	100.0	0.6	8.8	26.2	31.7	8.5	9.3	15.0
Less than 12 years	532	100.0	0.3	0.3	0.0	32.2	7.3	15.6	44.3
12 years	2931	100.0	0.3	11.2	0.0	39.7	12.1	13.1	23.6
13-15 years	1857	100.0	0.6	8.0	19.0	42.0	9.7	10.4	10.3
16 years or more	2886	100.0	0.9	8.5	62.7	16.7	4.4	3.6	3.1
	Black								
Total	1184	100.0	0.8	14.6	22.7	19.5	5.8	17.0	19.6
Less than 12 years	45	100.0	0.0	0.0	0.0	12.0	2.3	22.6	63.1
12 years	398	100.0	0.2	18.2	0.0	17.6	6.9	24.6	32.5
13-15 years	255	100.0	1.0	12.3	16.9	30.6	6.6	16.6	15.9
16 years or more	473	100.0	1.2	14.3	47.8	15.7	4.9	10.5	5.7
	Hispanic								
Total	523	100.0	0.5	10.2	18.6	27.3	6.2	9.1	28.0
Less than 12 years	79	100.0	0.0	0.9	0.0	24.1	4.1	9.9	60.9
12 years	161	100.0	0.2	15.9	0.0	27.7	5.9	17.1	33.3
13-15 years	126	100.0	0.8	9.0	20.0	35.1	11.1	4.1	19.8
16 years or more	142	100.0	0.7	11.3	51.0	21.0	4.2	3.6	8.2
	White								
Total	6580	100.0	0.6	7.6	27.5	34.2	9.1	8.0	13.2
Less than 12 years	409	100.0	0.4	0.2	0.0	36.0	8.5	15.9	39.0
12 years	2371	100.0	0.3	9.7	0.0	44.2	13.4	11.0	21.5
13-15 years	1476	100.0	0.5	7.2	19.3	44.5	10.1	9.8	8.6
16 years or more	2271	100.0	0.9	7.2	66.5	16.7	4.3	2.2	2.3

[a]Excludes individuals with prior service in the Armed Forces.

Table A.16 Distribution of Male Population 18-21 Years of Age With 12-15 Years of School Completed, by Educational Expectation, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Educational expectation, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	5582	100.0	7.4	38.2	43.4	4.3	4.1	2.6
12 years	1626	100.0	5.0	0.0	75.9	6.5	7.3	5.1
13-15 years	1132	100.0	9.7	15.5	62.4	5.2	4.6	2.6
16 years or more	2781	100.0	7.8	70.3	16.5	2.7	1.5	1.1
	Black							
Total	571	100.0	15.7	32.4	31.8	6.2	10.0	4.0
12 years	129	100.0	10.1	0.0	59.5	7.0	13.6	9.8
13-15 years	126	100.0	21.0	10.8	46.5	4.2	14.1	3.5
16 years or more	309	100.0	15.7	55.5	14.4	6.2	6.4	1.9
	Hispanic							
Total	243	100.0	10.4	35.6	38.8	3.7	4.9	6.6
12 years	56	100.0	6.2	0.0	76.1	2.5	8.4	6.8
13-15 years	59	100.0	17.9	18.9	36.1	10.0	10.3	6.8
16 years or more	128	100.0	8.7	59.2	23.5	1.3	0.8	6.5
	White							
Total	4770	100.0	6.2	39.0	45.0	4.1	3.4	2.2
12 years	1441	100.0	4.5	0.0	77.4	6.7	6.7	4.7
13-15 years	947	100.0	7.7	15.9	66.2	5.0	3.0	2.2
16 years or more	2345	100.0	6.7	72.9	16.4	2.3	0.9	0.7

[a]Excludes individuals with prior service in the Armed Forces.

Table A.17 Distribution of Female Population 18-21 Years of Age With 12-15 Years of School Completed, by Educational Expectation, Race and Survey Week Activity: 1979
(Percentage distribution)

Survey week activity / Educational expectation, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	6000	100.0	0.7	36.2	36.7	9.3	6.8	10.2
12 years	1862	100.0	0.4	0.1	53.4	15.4	9.6	21.0
13-15 years	1574	100.0	0.7	22.4	47.0	10.1	10.1	9.7
16 years or more	2537	100.0	1.0	71.3	17.9	4.4	2.8	2.5
	Black							
Total	726	100.0	1.3	37.1	28.6	7.1	15.0	11.0
12 years	139	100.0	0.7	0.0	42.2	10.9	24.4	21.8
13-15 years	201	100.0	1.3	21.4	37.2	7.4	17.6	15.2
16 years or more	381	100.0	1.5	59.3	18.6	5.7	10.0	4.9
	Hispanic							
Total	267	100.0	0.9	36.5	35.1	9.9	3.7	14.0
12 years	51	100.0	0.6	0.0	53.9	16.4	6.2	22.9
13-15 years	102	100.0	1.0	24.8	38.2	11.8	5.1	19.2
16 years or more	113	100.0	0.9	63.8	24.1	5.3	1.5	4.5
	White							
Total	5008	100.0	0.7	36.1	38.0	9.6	5.8	9.9
12 years	1672	100.0	0.4	0.1	54.4	15.8	8.4	20.9
13-15 years	1270	100.0	0.5	22.4	49.3	10.4	9.3	8.1
16 years or more	2042	100.0	0.9	73.9	17.4	4.2	1.6	2.0

[a]Excludes individuals with prior service in the Armed Forces.

Table A.18 Distribution of Male Population 18-21 Years of Age, by Health Status, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Health, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8239	100.0	6.7	12.8	25.9	39.6	5.3	6.3	3.5
Does not affect work	7843	100.0	6.6	12.6	26.2	40.0	5.3	6.2	3.2
Affects work	396	100.0	7.0	17.9	20.0	32.5	5.0	8.0	9.7
	Black								
Total	1088	100.0	9.7	18.1	17.0	29.5	7.3	11.4	7.0
Does not affect work	1029	100.0	9.9	17.3	17.1	30.4	7.0	11.2	6.9
Affects work	59	100.0	6.8	31.4	14.0	14.0	11.4	13.9	8.5
	Hispanic								
Total	495	100.0	7.6	15.7	17.5	39.3	4.6	7.5	7.8
Does not affect work	471	100.0	7.6	16.0	17.5	39.6	4.5	7.5	7.3
Affects work	24	100.0	6.5	9.7	16.8	34.3	5.2	8.8	18.8
	White								
Total	6658	100.0	6.1	11.7	28.0	41.3	5.0	5.3	2.6
Does not affect work	6345	100.0	6.0	11.5	28.3	41.5	5.0	5.3	2.3
Affects work	313	100.0	7.1	16.0	21.4	35.8	3.7	6.8	9.3

[a]Excludes individuals with prior service in the Armed Forces.

Table A.19 Distribution of Female Population 18-21 Years of Age, by Health Status, Race and Survey Week Activity: 1979
(Percentage distribution)

Survey week activity / Health, race	Total population								
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]					
				High school	College	Employed		Unemployed	Not in labor force
						Full-time	Part-time		
	Total								
Total	8285	100.0	0.6	8.8	26.2	31.7	8.5	9.3	15.0
Does not affect work	7488	100.0	0.6	9.2	27.6	32.6	8.1	9.3	12.7
Affects work	798	100.0	0.7	4.9	13.8	22.6	11.4	9.8	36.8
	Black								
Total	1184	100.0	0.8	14.6	22.7	19.5	5.8	17.0	19.6
Does not affect work	1085	100.0	0.7	14.9	23.9	20.5	5.4	16.8	17.8
Affects work	99	100.0	2.2	11.5	10.5	8.7	9.9	18.6	38.7
	Hispanic								
Total	523	100.0	0.5	10.2	18.6	27.3	6.2	9.1	28.0
Does not affect work	492	100.0	0.5	9.7	19.4	28.5	6.5	9.3	26.1
Affects work	31	100.0	0.0	17.9	6.2	8.0	2.8	6.8	58.3
	White								
Total	6580	100.0	0.6	7.6	27.5	34.2	9.1	8.0	13.2
Does not affect work	5912	100.0	0.6	8.1	28.9	35.2	8.8	7.9	10.6
Affects work	668	100.0	0.5	3.3	14.7	25.4	12.0	8.7	35.5

[a]Excludes individuals with prior service in the Armed Forces.

Table A.20 Distribution of Male Population 18-21 Years of Age With 12-15 Years of School, by Health Status, Race and Survey Activity: 1979

(Percentage distribution)

Survey week activity / Health, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	5582	100.0	7.4	38.2	43.4	4.3	4.1	2.6
Does not affect work	5355	100.0	7.3	38.4	43.5	4.4	4.1	2.4
Affects work	227	100.0	8.3	34.9	41.9	2.8	4.8	7.3
	Black							
Total	571	100.0	15.7	32.4	31.8	6.2	10.0	4.0
Does not affect work	549	100.0	15.6	32.1	32.3	6.1	10.2	3.7
Affects work	22	100.0	18.3	37.9	21.0	8.4	3.2	11.3
	Hispanic							
Total	243	100.0	10.4	35.6	38.8	3.7	4.9	6.6
Does not affect work	233	100.0	10.8	35.4	38.4	3.8	5.1	6.5
Affects work	10	100.0	0.0	42.3	48.5	0.0	0.0	9.2
	White							
Total	4770	100.0	6.2	39.0	45.0	4.1	3.4	2.2
Does not affect work	4574	100.0	6.2	39.3	45.1	4.2	3.3	2.0
Affects work	196	100.0	7.6	34.2	43.9	2.4	5.2	6.8

[a]Excludes individuals with prior service in the Armed Forces.

Table A. 21 Distribution of Female Population 18-21 Years of Age With 12-15 Years of School, by Health Status, Race and Survey Week Activity: 1979

(Percentage distribution)

Survey week activity / Health, race	Total population							
	Total number (000)	Total percent	Armed Forces	Civilian sector[a]				
				College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total	6000	100.0	0.7	36.2	36.7	9.3	6.8	10.2
Does not affect work	5465	100.0	0.7	37.8	37.3	8.8	6.7	8.8
Affects work	535	100.0	1.0	20.6	30.5	14.7	8.4	24.8
	Black							
Total	726	100.0	1.3	37.1	28.6	7.1	15.0	11.0
Does not affect work	668	100.0	1.0	38.8	29.8	6.3	14.7	9.5
Affects work	58	100.0	3.8	18.1	14.9	17.0	18.0	28.2
	Hispanic							
Total	267	100.0	0.9	36.5	35.1	9.9	3.7	14.0
Does not affect work	259	100.0	0.9	36.9	35.2	10.2	3.9	13.0
Affects work	8	100.0	0.0	23.9	30.8	0.0	0.0	45.2
	White							
Total	5008	100.0	0.7	36.1	38.0	9.6	5.8	9.9
Does not affect work	4539	100.0	0.7	37.7	38.6	9.1	5.6	8.4
Affects work	469	100.0	0.7	20.9	32.4	14.6	7.4	24.0

[a]Excludes individuals with prior service in the Armed Forces.

Table A.22 Proportion Married Among Youth 18-21 Years of Age, by Type Universe, Race, Sex and Survey Week Activity: 1979

(In percent)

Survey week activity / Sex, race and type universe	Total population							
	Total	Armed Forces	Civilian sector[a]					
			High school	College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Total								
Males	10	18	a	1	17	8	9	7
Females	23	25	4	2	25	37	33	53
12-15 years of school								
Males	8	17	0	1	14	6	7	4
Females	21	26	0	2	23	39	29	55
	Black							
Total								
Males	5	15	1	0	9	0	2	4
Females	12	16	1	a	18	26	16	19
12-15 years of school								
Males	5	13	0	0	8	0	2	0
Females	12	16	0	a	16	28	22	19
	Hispanic							
Total								
Males	12	11	1	1	20	9	20	19
Females	29	26	2	2	31	32	40	52
12-15 years of school								
Males	7	13	0	1	11	20	7	0
Females	21	26	0	2	24	28	42	52
	White							
Total								
Males	10	19	0	2	18	10	11	6
Females	25	27	5	2	26	39	39	63
12-15 years of school								
Males	9	19	0	2	14	6	9	5
Females	22	28	0	2	24	40	31	61

[a]Excludes individuals with prior service in the Armed Forces.

Table A.23 Mean Rotter and Knowledge of World of Work (KOWW) Scores Among Youth 18-21 Years of Age, by Sex, Race and Survey Week Activity: 1979

Survey week activity / Sex, race Rotter, KOWW	Total population							
	Total	Armed Forces	Civilian sector[a]					
			High school	College	Employed		Unemployed	Not in labor force
					Full-time	Part-time		
	Total							
Males								
Rotter	8.13	8.31	8.30	7.41	8.30	8.54	8.70	9.00
KOWW	6.82	6.87	5.95	7.72	6.77	6.56	5.85	5.79
Females								
Rotter	8.27	7.88	8.46	7.42	8.28	8.49	9.16	9.00
KOWW	6.55	7.29	5.87	7.21	6.64	6.83	6.00	5.71
	Black							
Males								
Rotter	8.53	8.60	8.17	7.86	8.65	8.41	9.35	9.33
KOWW	5.31	6.02	4.48	6.63	5.25	4.53	5.02	4.68
Females								
Rotter	8.82	9.51	8.51	8.03	8.98	9.19	9.15	9.33
KOWW	5.40	6.63	4.86	6.31	5.74	5.45	5.02	4.67
	Hispanic							
Males								
Rotter	8.72	8.74	8.81	7.93	8.99	8.68	8.74	8.94
KOWW	5.63	5.85	4.90	6.99	5.54	4.51	4.82	5.72
Females								
Rotter	8.86	8.31	9.24	7.67	8.78	8.07	9.84	9.48
KOWW	5.36	7.05	4.41	6.45	5.82	6.08	4.86	4.49
	White							
Males								
Rotter	8.03	8.20	8.28	7.34	8.21	8.56	8.47	8.87
KOWW	7.15	7.19	6.43	7.87	7.03	7.19	6.24	6.27
Females								
Rotter	8.13	7.45	8.33	7.32	8.17	8.43	9.10	8.82
KOWW	6.85	7.48	6.38	7.39	6.79	7.03	6.47	6.19

[a]Excludes individuals with prior service in the Armed Forces.

Table A.24 Comparison of Selected Characteristics of Male Youth 18-21 Years of Age with 12-15 Years of School Completed in Armed Forces and At Work Full-Time in Civilian Job, by Characteristic, Survey Week Activity and Race: 1979

(Percentage distribution)

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Total number (000)	411	2423	90	182	25	94	296	2147
Education of parent[a]	100	100	100	100	100	100	100	100
Less than 12 years	19	17	27	43	42	57	16	13
12 years	47	55	45	42	33	29	48	57
13 years or more	34	28	28	15	25	14	37	30
Occupation of parent[b,c]	100	100	100	100	100	100	100	100
Professional or managerial	25	26	13	19	26	16	29	26
Sales, clerical	12	13	9	3	5	8	13	14
Blue collar	50	50	56	57	58	47	48	49
Service	11	7	21	19	11	16	9	6
Educational expectations	100	100	100	100	100	100	100	100
12 years	20	51	15	43	15	46	22	52
13-15 years	27	29	30	33	42	22	25	29
16 years or more	53	19	55	24	42	32	53	18
Knowledge of world of work score	100	100	100	100	100	100	100	100
0-5	18	17	33	43	28	33	12	14
6	11	15	12	18	24	14	9	14
7	22	24	20	22	32	19	22	24
8-9	49	45	34	16	16	35	56	48
Marital status	100	100	100	100	100	100	100	100
Married	17	14	13	8	13	11	19	14
Never married	83	86	87	92	87	89	81	86

Table A.24 (males) continued

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed orces	Employed full-time	Armed orces	Employed full-time	Armed orces	Employed full-time	Armed orces	Employed full-time
Internality (Rotter) score	100	100	100	100	100	100	100	100
4-8	55	57	41	50	44	55	60	58
9-16	45	43	59	50	56	45	40	42
Health status	100	100	100	100	100	100	100	100
Does not affect work	95	96	96	97	100	95	95	96
Affects work	5	4	4	3	0	5	5	4

[a]Years of school completed by parent in the household with the highest educational attainment.

[b]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[c]Excludes employment in farming

Table A.25 Comparison of Selected Characteristics of Female Youth 18-21 Years of Age with 12-15 Years of School Completed In Armed Forces and At Work Full-Time In Civilian Job, by Characteristic, Survey Week Activity and Race: 1979

(Percentage distribution)

Race, survey week activity / Characteristic	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Total number (000)	45	2203	9	207	2	94	33	1902
Education of parent[a]	100	100	100	100	100	100	100	100
Less than 12 years	30	21	30	39	50	55	27	17
12 years	43	51	50	42	50	29	39	53
13 years or more	27	28	20	19	0	16	33	29
Occupation of parent[bc]	100	100	100	100	100	100	100	100
Professional or managerial	20	23	14	16	0	24	22	23
Sales, clerical	10	16	14	11	0	5	13	17
Blue collar	53	48	29	52	100	56	56	47
Service	15	9	43	20	0	9	9	8
Educational expectations	100	100	100	100	100	100	100	100
Less than 12 years	--	--	--	--	--	--	--	--
12 years	18	45	10	28	0	30	21	48
13-15 years	24	34	30	37	50	41	21	33
16 years or more	58	21	60	35	50	29	58	19
Knowledge of world of work score	100	100	100	100	100	100	100	100
0-5	9	20	22	44	0	31	6	17
6	18	14	11	12	0	22	21	14
7	20	25	22	22	50	26	21	27
8-9	52	39	44	22	50	21	53	42
Marital status	100	100	100	100	100	100	100	100
Married	26	23	16	16	26	24	28	24
Never married	74	77	84	84	74	76	72	76

Table A.25 (females) continued

Characteristic \ Race, survey week activity	Total		Black		Hispanic		White	
	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time	Armed Forces	Employed full-time
Internality (Rotter) score	100	100	100	100	100	100	100	100
4-8	64	57	44	47	50	51	73	58
9-16	36	43	56	53	50	49	27	42
Health status	100	100	100	100	100	100	100	100
Does not affect work	89	93	78	96	100	98	91	92
Affects work	11	7	22	4	0	2	9	8

[a]Years of school completed by parent in the household with the highest educational attainment.

[b]One-digit occupation group of father's job. If father is absent from household and mother is present, then occupation group of mother's job.

[c]Excludes employment in farming

CHAPTER 3

QUALITY OF EMPLOYMENT AND JOB SATISFACTION OF YOUTH IN THE ARMED FORCES

A comparison of the non-monetary characteristics of jobs in the military and the civilian sector may indicate the factors affecting the decision to choose employment in one of the services versus the civilian job market, and may help to explain post enlistment behavior in the form of attrition and reenlistment.

Studies conducted in support of the President's Commission on the All Volunteer Armed Force (Gates Commission) focused on the monetary differential between the military and civilian sector, in an effort to forecast enlistment supply.

A common theme of the several studies was the basic notion expressed by Fechter as follows.

> "Our model first assumes that the individual chooses the set of activities that provides him with the highest net pecuniary and non-pecuniary benefits. We further assume that, in principle, the individual can evaluate non-pecuniary cost and benefits in pecuniary terms. This implies, for example, that the individual is able to stipulate the number of collars of additional pay, or pecuniary benefits, that he would require to offset the non-pecuniary cost associated with what he thinks are distasteful conditions of service life, i.e., that there is some finite rate of exchange between pecuniary and non-pecuniary factors."[1]

Fechter went on to define non-pecuniary costs and benefits as "the satisfactions or dissatisfactions derived from the work environment."[2]

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[1] Alan Fechter, "Impact of Pay and Draft Policy on Army Enlistment Behavior" in Studies Prepared for The President's Commission on an All-Volunteer Armed force, U.S.G.P.O. 1970, p. II-3-2-.

[2] Ibid. p. II-3-50.

The early predictions by the Gates Commission based mostly on econometric models whose basic approach was similar to that described by Fechter must be judged as reasonable, in view of the history of the volunteer force. The military participation rates of qualified youth discussed in Chapter 2 are relatively favorable testimonials to the efficacy of the "comparable military wage " espoused by the Commission.

However, there are some disturbing aspects of the volunteer force that were not predicted, and which an examination of perception of job quality may help illuminate. The first is the high attrition rate (approximately one-third of accessions fail to complete the initial term of service[3]). Second, the services are experiencing difficulty in recruiting a combined strength of two million even though the Gates Commission had forecast high feasibility of recruiting 2.5 - 3 million. Third, the Commission did not appear to anticipate the degree of recruiting difficulty faced by the Army and Marine Corps, especially in the combat arms. That is, differing degrees of recruiting difficulty occur even though all services pay the same wages for individuals of a given rank and years of service. Also, within a given service, such as the Army, some jobs are more easily filled (technical and medical positions) than others (combat arms), despite equal pay and opportunity for advancement, at least during the span of the first term of service.

One possible explanation for the failure to expect higher attrition rates and much greater recruiting difficulties for the ground combat arms is the nature of the econometric models used for prediction. For

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[3] Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics, America's Volunteers, A Report on the All-Volunteer Armed Force, p. 65.

example, in Fechter's model the wage that would induce an individual to join the Service, is based upon his or her estimation of both the pecuniary and nonpecuniary aspects of the military job compared to his civilian life alternatives. Inherent in such an assumption is the notion that an individual's estimate of the nonpecuniary job aspects is reasonably stable. If so, then the reservation wage is a good proxy of such estimates and provides a reasonably good basis for predicting not only those who join, but also those who will remain. If, on the other hand, post enlistment reality turns out to be much worse than expected, serious organizational dysfunctions such as high attrition rates might be predicted. Further, greater dissatisfaction among service personnel relative to their civilian counterparts in the labor market can be expected to reduce the propensity for military service in the upcoming cohort, given an assumption of at least a degree of inter-cohort communication. "Satisfactions and dissatisfactions derived from the work environment" may greatly assist in accounting for high attrition rates, lower than expected propensities for military service, and highly differentiated recruiting successes among the four services, as well as differences in recruiting for certain jobs within a service.

The primary purpose of this chapter will be to compare measures of the nonmonetary aspects of military and civilian jobs held by youth, as reported by the job incumbents themselves, and to examine the nonmonetary differentials in light of differences in reported pay of the two groups. A secondary purpose will be to compare the reported pay and allowances of the Armed Forces sample to their respective entitlements. The reason for such a comparison is to determine if it is the "actual pay" or "perceived pay" which most affects pay satisfaction, since the military

pay and allowance system is much more complex than the hourly wage rate of the majority of the civilian sample, and may not be fully understood by the service member.

Method

For reasons similar to those outlined in Chapter 2, the main population subgroup selected for comparison to service were the non-veteran, noncollege graduate, 18-21 year old, employed full time (thirty-five hours or more per week.[4])

The interview schedule drew measures of the job and work environment from two separate and well established lines of research. The first grew out of the effort to discover how various job aspects affect productivity, absenteeism, and turnover. The second was designed to measure the quality of employment in American life. There were seventeen items in all and a global job satisfaction measure. Both lines of research provided for a combination of several items into summated scales, designed to report combined job aspects.

Before the differences between the two groups were examined, the impact of several variables on the global job satisfaction measure was analyzed to ensure that any differences could not be attirbuted to differences in demographic composition rather than to differences in the work environment of the two populations. The demographic comparison in Chapter 2 pointed out extreme differences in composition by gender, differences with respect to race, and minor differences with respect to education. Table 3.1 presents the mean job satisfaction measure

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[4] Also, as in Chapter 2, those enrolled in college on a full time basis were not included in full time employed aggregate in order to focus on those whose full time employment is, most likely, their primary endeavor.

Table 3.1 Means of the Global Job Satisfaction Measure of Youth Ages 18-21, By Education, Race and Sex: 1979

	Total	Male				Female			
		Total	White	Black	Hispanic	Total	White	Black	Hispanic
High school graduates[a]									
Mean score	3.14	3.10	3.12	3.02	3.02	3.19	3.20	3.05	3.21
Number	2988	1467	1042	273	152	1521	1082	288	151
Standard deviation	.79	.78	.79	.74	.78	.80	.80	.73	.71
High school dropouts									
Mean score	3.09	3.08	3.11	2.86	3.10	3.12	3.15	2.98	3.02
Number	1151	783	449	177	157	368	229	70	69
Standard deviation	.78	.78	.77	.88	.73	.77	.77	.80	.78
Total									
Mean score	3.13	3.09	3.11	2.96	3.06	3.17	3.19	3.03	3.15
Number	4139	2250	1491	450	309	1889	1311	358	220
Standard deviation	.79	.78	.78	.80	.75	.79	.80	.75	.73

[a]Only graduates who received diplomas are included in this category.

by category of the race-sex-education array. Education did not display a great deal of impact, but sex and, to a much lesser extent race, appeared to be important factors. Thus, subsequent comparisons will control for race and sex.[5]

Comparison of Job Aspects for Males

Table 3.2 presents the mean satisfaction with specific characteristics of jobs. It should be noted that the first seven items involved a five point scale, and the last eleven items used a four point scale. Table 3.3 presents the t values for the differences between the means of the military and civilian groups. As can be seen from Table 3.2, servicemen are lower on every measure of job satisfaction except job security. The fact that those in civilian employment can change jobs if they are dissatisfied and have an alternative would lead to the expectation that they might be somewhat higher on measures of job aspects. Nevertheless, the highly consistent lower evaluations given their jobs by military males is surprising in view of the all volunteer force policy. If the Armed Forces is to compete in the market place, one would expect a more even comparison with the civilian labor market, at least on highly advertised characteristics of military employment such as a "chance to learn a valuable skill."

Difference patterns for minority males are somewhat more favorable than for white, but minority servicemen are still below their civilian counterparts in viewing many aspects of their jobs. Black

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[5] Education could be an important factor, especially in interaction with race; however, time constraints did not permit a more extensive analysis. Future effort will consider education as well as race, sex, and labor market status.

Table 3.2 Mean Satisfaction Score In Various Aspects of Job Among Military Personnel and Civilians Employed Full-Time, Males 18-21 Years of Age, by Survey Week Activity, Sex, Race and Aspect of Job: 1979

Aspect in job / Sex, race and survey week activity	Armed Forces				Civilian sector			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Skill variety	2.85	2.95	2.47	2.83	3.20	3.29	2.67	2.93
Task identity	3.92	3.77	3.57	3.58	3.82	3.87	3.63	3.46
Task significance	3.38	3.41	3.22	3.46	3.42	3.49	3.06	3.12
Autonomy	2.87	2.95	2.60	2.68	3.32	3.39	2.88	2.93
Feedback	3.64	3.74	3.27	3.59	3.85	3.90	3.61	3.60
Dealing with others	3.53	3.58	3.36	3.52	3.54	3.60	3.25	3.11
Friendship opportunities	3.51	3.56	3.35	3.38	3.52	3.56	3.39	3.17
Job challenge	2.60	2.68	2.34	2.37	30.1	3.02	2.86	3.01
Comfort	2.43	2.38	2.60	2.45	2.92	2.91	2.98	2.97
Learn valuable skill	2.82	2.87	2.58	2.88	3.08	3.09	2.98	3.08
Safety	2.30	2.30	2.40	2.07	2.52	2.49	2.61	2.56
Healthful condition	2.80	2.80	2.82	2.79	2.90	2.90	2.87	3.05
Pay	2.04	2.05	2.00	2.10	.297	3.00	2.86	2.77
Job security	3.37	3.42	3.18	3.28	3.25	3.29	2.92	3.13
Relation with co-workers	3.39	3.46	3.25	3.11	3.66	3.67	3.61	3.60
Competent supervisors	3.27	3.28	3.20	3.42	3.46	3.47	3.41	3.49
Promotion chances	2.87	2.88	2.81	2.97	2.94	2.96	2.84	2.83
Global job satisfaction	2.77	2.79	2.68	2.82	3.18	3.20	3.03	3.11

Table 3.3 T-Values for Differences Between Means of Youth Serving in the Armed Forces and Employed Full-Time in the Civilian Sector

	Males	Females
Variety	-5.77	-1.46
Task identity	-1.67	+0.94
Task significance	-0.63	-2.72
Autonomy	-7.58	-3.52
Feedback	-3.77	0.00
Dealing with others	-0.17	+3.34
Friendship opportunities	-0.18	-4.19
Job challenge	-8.39	-5.94
Comfort	-10.02	-11.10
Valuable skill	-4.76	-0.62
Safety	-4.00	-4.82
Health	-1.85	-2.32
Pay	-20.49	-6.17
Job security	+3.03	+5.94
Relations with co-workers	-7.84	-2.46
Competent supervisor	-4.42	-1.66
Promotion chances	-1.41	+5.99
Global job satisfaction	-9.53	-4.74

males in the service are higher on "Job Security", "Task Significance", and "Dealing with Others"; and are close on "Task Identity", "Friendship Opportunities", and "Promotion Chances." Hispanic males display a similar but slightly more favorable difference pattern.[6]

Lower perceptions of Job Challenge and Autonomy may simply be a function of the necessarily authoritarian nature of military organizations. Certainly, the Armed Forces Population, which of course, includes Army and Marine Corps combat units, cannot be expected to compare favorably with civilian employers on items such as Job Comfort

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[6]In order to discern which items had the closest relationship to the global job satisfaction measure, interitem correlations were calculated (Appendix Table B.1). Also, to ensure the aggregate correlation matrix did not mask differences due to sector or sex, intercorrelations for five separate sub-populations were run--total, males only, females only, civilian group only, and military group only (Table B.2).

There are some differences in one or two items between subgroups. However, the job satisfaction-single item correlation structure is reasonably stable for both sexes and both labor market sectors. As can be seen from Table B.1, the single items having the highest correlations with the global job satisfaction measure for the male population are Job Challenge* (r = .50), Job Significance (r = .43), Job Comfort* (r = .39), Learn Valuable Skill (r = .38), Skill Variety* (r = .36), Promotion Opportunity (r = .35), Pay* (r = .32), and Autonomy * (r = .30). Items with an asterisk represent the five items where the differences between the servicemen and civilians are the greatest. In other words, five of the eight items most related to the global job satisfaction measure are the items with the greatest difference between the two groups.

which was measured by the perceptions of the pleasantness of physical surroundings. However, the rather large perceived pay differential is surprising.[7] The differences in pay satisfaction between the military and civilian groups was not only the greatest difference for males, but was almost twice the difference as any other item. It also was the second greatest difference for females; Job Comfort was first. Further discussion of pay perceptions will be included in the monetary comparison section later in this chapter.

Comparison of Job Aspects for Females

Females in the Armed Forces are generally less satisfied with their jobs than their civilian counterparts. However, these women see more favorable job characteristics than male military personnel. As Table 3.4 indicates, service women saw a significantly greater degree of presence of three items compared to the civilian females--"Dealing with Others," "Job Security," and "Promotion Chances."[8]

Whereas men serving in the Armed Forces saw their opportunity for dealing with others and for friendships in almost equal terms with the civilians employed full time females in the services had a fundamentally different perspective. Perhaps, reflecting the highly interactive nature of the Armed Forces and the high male percentage

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[7] The actual pay item was simply, "The pay is good." Respondents were asked to answer on a four point scale. In further discussion, the pay item will be referred to frequently as pay satisfaction.

[8] Again, the items with the highest correlation with the job satisfaction measure, and with the greatest difference for the women, were selected for closer examination. The three items, also included in the listing for males, (see Tables B.1 and B.2), were Job Challenge, Job Comfort, and Pay. As pointed out in the discussion on males, a lower rating by military females compared to civilians on Job Challenge and Job Comfort is not surprising. But a major difference in pay perceptions is surprising and will be further discussed in the monetary section.

Table 3.4 Mean Satisfaction Score In Various Aspects of Job Among Military Personnel and Civilians Employed Full-Time, Females 18-21 Years of Age, by Survey Week Activity, Sex, Race and Aspect of Job: 1979

Aspect in job / Sex, race and survey week activity	Armed Forces				Civilian sector			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Skill variety	3.01	3.12	2.48	3.44	3.12	3.17	2.76	2.83
Task identity	3.88	4.00	3.29	4.24	3.81	3.86	3.61	3.35
Task significance	3.19	3.19	3.02	3.86	3.42	3.45	3.34	3.15
Autonomy	2.87	2.89	2.73	3.11	3.14	3.19	2.84	2.84
Feedback	3.84	3.80	3.99	3.74	3.84	3.88	3.60	3.56
Dealing with others	3.93	3.89	4.15	3.62	3.69	3.74	3.31	3.38
Friendship opportunities	3.17	3.23	2.80	3.61	3.48	3.52	3.24	3.32
Job challenge	2.76	2.77	2.65	3.02	3.07	3.09	2.82	2.96
Comfort	2.59	2.68	2.18	2.72	3.25	3.28	3.19	3.11
Learn valuable skill	3.09	3.10	3.06	3.05	3.13	3.15	2.98	3.07
Safety	3.04	3.06	2.97	2.94	3.36	3.35	3.47	3.32
Healthful condition	3.25	3.33	3.00	2.91	3.40	3.40	3.36	3.40
Pay	2.49	2.57	2.14	2.62	2.84	2.87	2.64	2.74
Job security	3.55	3.58	3.47	3.40	3.25	3.28	3.08	3.07
Relation with co-workers	3.54	3.61	3.27	3.54	3.64	3.65	3.49	3.63
Competent supervisors	3.39	3.39	3.47	3.19	3.48	3.48	3.48	3.50
Promotion chances	3.08	3.07	3.06	3.19	2.71	2.71	2.76	2.59
Global job satisfaction	2.98	3.09	2.53	3.15	3.25	3.28	3.10	3.12

composition, military women saw significantly greater job requirements for dealing with others than either Armed Forces males or civilian females, but saw significantly fewer opportunities for friendships. It may well be that the small percentage of females in the Armed Forces basically feel, at least at times, somewhat isolated within the highly male dominated organization. The perceptions of black servicewomen were even more pronounced in that they saw greater requirements for dealing with others on the job than white enlisted women, but saw even less friendship opportunities. Curiously, Hispanic females in the Armed Forces had higher perceptions of both interpersonal dealings and opportunities for friendship than did their civilian counterparts.

Another interesting aspect of Table 3.3 is the rather large positive difference in perceived promotion opportunity for enlisted females compared to women employed full time in the civilian sector and servicemen. The Armed Forces may, indeed, be in the forefront of offering equal opportunity for women.

Hackman and Oldham[9] developed a method of combining the intrinsic aspects of jobs into an equation that taps the motivating potential of the job itself. The equation combines the first five job instrinsic items. As can be seen from Table 3.5, the means for Armed Forces personnel (both male and female) are significantly lower than the respective means for civlians employed full time. Differences are much less for females, however, with Hispanic females in the military

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[9] R. J. Hackman and G. R. Oldham. "The Job Diagnostic Survey: An Instrument for the Diagnosis of Jobs and the Evaluation of Job Redesign Projects." Technical Report No. 4, Contract No. N00014-67A-0097-0026, NR 170-744. USG.P.O. 1974.

Table 3.5 Mean Aggregate Dimensions of Job Satisfaction Among Youth 18-21 Years of Age In the Armed Forces and Employed Full-Time in Civilian Jobs, by Type of Measure, Race and Sex: 1979

Type of measure, race \ Sector and sex	Male		Female	
	Armed Forces	Civilian	Armed Forces	Civilian
	Total			
Motivating potential	34.64	44.48	37.01	41.60
Quality of employment job facet	3.03	3.31	3.15	3.29
Environment	2.55	2.71	3.15	3.38
	Black			
Motivating potential	26.24	32.44	31.92	33.09
Quality of employment job facet	2.89	3.18	2.97	3.14
Environment	2.61	2.74	2.99	3.42
	Hispanic			
Motivating potential	31.65	33.44	44.86	31.54
Quality of employment job facet	2.94	3.20	3.23	3.20
Environment	2.43	2.96	2.93	3.36
	White			
Motivating potential	37.25	46.93	37.74	43.24
Quality of employment job facet	3.08	3.34	3.19	3.32
Environment	2.55	2.70	3.20	3.38

higher than their civilian counterparts. For civilian females employed part time the mean was 31.88, lower than for women in the services.[10] Thus, to the extent that the Hackman and Oldham equation taps the intrinsically motivating aspects of jobs, and to the extent that the items measured in the NLS instrument accurately represent Hackman and Oldham's factors, it must be concluded that Armed Forces jobs are inherently less motivating than jobs found in the civilian labor market, especially for males.

The summated scale from the second line of research involved the Quality of Employment job facet scale of Quinn and Staines.[11] Whereas the Motivating Potential scale involved only job intrinsic items, the quality of employment scale has a mixture of intrinsic factors with other factors such as comfort, job security, and competency of supervisor. However, as can be seen in Table 3.5, the results are about the same as for the Motivating Potential scale. The military population is significantly lower.

The final scale was simply the combination of two items having to do with the work environment. The environmental factor combined

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[10] The significantly lower measures on motivating potential for military personnel led to the comparison to those who are employed only part time, with the expectation that the part time employed, on the average, would have fewer motivating items contained in the Hackman and Oldham equation than either their full time employed or service counter parts. Indeed, the part time employed males (males not enrolled in college and working less than 35 hours per week) scored lower on the motivating potential (37.7) compared to the full time employed; but, surprisingly, were higher than servicemen. The same was not true for females.

[11] R. P. Quinn and G. L. Staines. The 1977 Quality of Employment Survey. (Ann Arbor: Inst. of Social Research, 1979.)

perceptions of danger and degree of unhealthful conditions on the job. Not surprisingly, service personnel came out lower for all sex race groups. They saw greater danger and more unhealthful conditions associated with their jobs than did those in the civilian sector.

Comparison Across Services

The previous measures clearly indicate that Armed Forces jobs are less desirable on nonpecuniary measures than are jobs held by civilians employed full time. It is quite plausible that the degree of difference between the nonpecuniary aspects of military and civilian jobs was not anticipated by many enlistees, and may be a major factor in the high attrition rates for military personnel.

The fact the military jobs are less desirable, on the average, does not mean there are not highly desirable jobs available in the Armed Forces. Indeed, the question arises as to the role of nonpecuniary job aspects in recruiting and retention differences among the Services. The expectation is that controlling for all other factors, if a group of jobs pay the same rate, the jobs with greater nonpecuniary satisfactions will be more attractive. It was hypothesized that services known for a greater number of "tough" jobs, that is, jobs requiring little or no skills applicable to civilian life, and with a great number of associated disamenities (Army and Marine Corps) would be significantly lower in job satisfaction than the two, more technical services (Navy and Air Force).[12] Further, it was suggested that differences would be

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[12] It should be emphasized that all services have jobs varying in associated disamenities and degree of skill applicability to civilian life. (The Air Force has remote radar sites and the Navy, of course, has a fairly large number at sea at any given time.) However, it is suggested that the Marine Corps have a higher proportion of such jobs.

significant for men, but not necessarily for women due to the policy of excluding women from combat units where disamenities are expected to be greater.

The services were compared using the global job satisfaction measure as a summary of all job aspects. In order to control for possible differences in service composition, the data are presented by education and sex. As can be seen from the data in Table 3.5 the results were basically as expected.

Further, since pay is reasonably equal across services, then the branches with a higher percentage of tough jobs should not only manifest lower overall job satisfaction (which, according to the data in Table 3.6, they do), but should attract fewer highly qualified youth. To perform a rather quick check of this hypothesis, the four Services were compared on four dimensions used in Chapter 2 to examine differences between military personnal and those civilians employed full time. The results in Table 3.7 are not only in the hypothesized direction, but suggest the danger in examining the Armed Forces only as an aggregate.

A Comparison of Monetary Factors

As indicated earlier, the fact that the differential in pay satisfaction between the military and civilian was the largest difference for males and second largest for females was surprising. Further analysis was conducted in an effort to investigate four questions.

1. Could the differences be attributed to real differences in pay?
2. Might the differences be a result of underestimated pay on the part of the military personnel, since the military pay and allowance system is complex?

Table 3.6 Mean Global Job Satisfaction Score Among Youth 18-21 Years of Age, by Branch of Service, Sector of Employment, Hours Worked Per Week, Educational Attainment and Sex: 1979

Sector, branch and hours per week / Education and sex	Total		High school diploma graduate	
	Male	Female	Male	Female
Armed Forces				
Army	2.65	2.75	2.68	2.78
Marine Corps	2.82	2.75	2.76	2.74
Navy	2.82	3.37	2.88	3.42
Air Force	2.92	3.01	2.90	2.88
Civilian				
Employed full-time	3.18	3.25	3.19	3.27

Table 3.7 Selected Characteristics of Youth 18-21 Years of Age in the Armed Forces, by Branch of Service and Characteristic: 1979

Characteristic \ Branch	Army	Navy	Air Force	Marine Corps
Educational attainment				
Percent high school diploma graduate	69	79	95	74
Knowledge of world of work score				
0-3	30	13	9	23
7-9	32	56	54	45
Education of parent				
Less than 12 years	28	21	16	22
12 years or more	25	36	37	26
Educational expectations				
Percent college graduate	37	49	63	42

3. Could pay differences, either real or perceived, largely account for expressed differences in job satisfaction?
4. Conversely, might job satisfaction largely account for differences in pay perceptions?

To determine average monthly pay for those employed full time in the civilian sector, the product of each respondent's reported hourly wage and usual number of hours worked per week was multiplied by 4.33 weeks per month. This calculated average will be approximate since overtime pay rates were not considered and some respondents worked overtime on a regular basis. At the same time the estimated monthly pay of the civilian labor market jobs does not include reductions for spells of unemployment, strikes, layoffs, etc. Thus, the civilian estimate represents a view of the monthly pay of those employed full time for the entire year exclusive of overtime premiums. Also excluded are certain fringe benefits provided both sets of personnel. Overall, it appears the expected annual earnings of military personnel should be greater for a given wage rate.

For those in the military sample, the average monthly pay was based upon the military pay schedule in effect at the time of interview. Also, in order to exclude any oversea allowances, only those military respondents stationed in the continental United States were included. The monthly pay was the yearly Regular Military Compensation (RMC) rate divided by 12.[12] The RMC calculation will also be somewhat understated since additional allowances for children were not considered.

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[12] RMC = Base Pay + Allowance for Quarters + Allowance for Food and Tax Advantage Calculation, since the allowances (quarters and food) are tax free.

In order to gain some insight on how service members view their pay, two additional measures of military pay were examined. First, the military respondents were asked how much they received per month in pay and allowances (reported pay).[13] Second, pay was figured for each service member, based only upon what he or she would most likely see in his or her pay voucher, and labeled Monthly Apparent Pay (MAP). It was assumed that single service members would not "see" the imputed value for the barracks and mess hall, but that married service members would since the vast majority of them are provided quarters allowance.[14] Table 3.8 presents a comparison of the three measures of military pay and the estimated earnings of the fully employed civilians.

As can be seen from Table 3.8, Armed Forces males receive 12 percent less monthly pay than their civilian counterparts. However, females receive 18 percent more pay. In order to make the military RMC equivalent to wages for high school graduates employed full time, Armed Forces males would require an 18 percent increase.[15] On the other hand, the Armed Forces appear to be in the forefront of offering equal opportunity for women as evidenced by greater perceived promotion opportunities reported in the earlier section and higher pay, compared to their civilian counterparts.

As Table 3.8 illustrates, actual pay differences may indeed be a major factor in explaining pay satisfaction differences for males, but not for females. Also, it is doubtful that a 12 percent pay difference can explain all of the variance in the pay satisfaction differential for

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[13] A single service member living in barracks may or may not have included allowances for food and housing.

[14] It was not expected that any service member would see the tax advantage pay increment.

[15] It should be emphasized again that unemployment and layoffs were not factored in the calculations; however, it is not at all clear that individuals consider such contingencies when making pay comparisons.

Table 3.8 Estimated Monthly Earnings of Full-Time Employed Youth 18-21 Years of Age, by Sector of Employment, Education, Race and Sex: 1979

(in dollars)

Sector and education \ Sex and race	Male				Female			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Armed Forces								
Regular military compensation[a]	752	745	751	755	737	725	776	737
Reported pay	585	541	547	602	563	519	575	573
Apparent pay	557	547	549	561	555	529	605	558
Civilian[b]	857	753	761	876	626	617	605	628
High school diploma graduate								
Armed Forces								
Regular military compensation[a]	754	744	745	758	737	726	776	737
Reported pay	595	537	544	618	564	518	575	574
Apparent pay	557	540	536	564	555	531	605	558
Civilian[b]	890	820	792	900	635	627	640	635
High school dropout								
Armed Forces								
Regular military compensation[a]	746	748	765	743	c	c	c	c
Reported pay	553	558	555	551	c	c	c	c
Apparent pay	559	552	575	576	c	c	c	c
Civilian[b]	767	658	736	795	577	534	554	585

[a]Consists of base pay, quarter allowances, subsistence allowances and tax advantages.

[b]Computed as the product of average hourly earnings, usual hours worked and 4.33 weeks per month.

[c]Less than 25 sample cases.

males. Thus, perceptions of pay becomes an important consideration.

Military pay structures are complex and may result in large differences between what a service member believes he is paid and what the Government indicates he is paid. For example, the average rank for males in the Youth Survey was E-3, with slightly over two years of service. His base pay was $512 oer month. If he is siggle and lives in the barracks, his RMC monthly pay is ($752 per month. Thus, the Government imputes to his salary $239 per month for the privilege of eating in the mess hall and sleeping in the barracks. It is highly questionable that the service member himself would value mess hall and barracks at such a rate, bearing in mind that most service members living in barracks share rooms and are constantly subject to inspection. Thus, it was anticipated that the MAP would most likely be the figure that most service members would use to compare their pay to their "relevant others" in the labor market.

As can be seen in Table 3.8, the reported pay and apparent pay (MAP) of armed forces personnel are fairly close. The degree of convergence does not necessarily indicate service members value their pay more according to what is visible since there was no item asking them to estimate their RMC pay. However, the evidence on pay satisfaction, especially for the women, suggests that military pay is seen more according to what is in the pay voucher rather than imputed pay based upon RMC calculations. Thus, perceived pay, most probably contributes significantly to the pay satisfaction differential.[16]

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[16] It should be emphasized at this point that pay perceptions on the part of service members may not entirely be due to a lack of understanding of the pay system. Even if it were fully understood, it might lead to other dissatisfactions since, as stated earlier, it is doubtful that service personnel would value the barracks and mess hall as worth $239 per month.

There were no significant differences in the three mean pays among the four services. Yet, as indicated in Table 3.6, there were significant differences in global job satisfaction, the summary measure of both the pecuniary and nonpecuniary job aspects. When the ranking among the Services were compared, the Army personnel, who had the lowest overall satisfaction had the highest satisfaction with pay. Thus, job satisfaction appears to be a function of three factors--job characteristics and their associate disamenities, pay, and the reference group against which the individual compares his job and pay.[17] Thus, a uniform pay policy is likely to sort individuals such that those with the better qualifications go into the jobs with the fewer disamenities.[18] If this is not the case, job satisfaction is likely to vary across the services and recruiting and retention will be more difficult for some jobs.

Implications

Although it appears that the Armed Forces jobs are well below the civilian labor market in both pecuniary and nonpecuniary aspects, simply raising pay may not be the answer. Further, with the unique requirements for combat resources and necessary deployment in sometimes remote and overseas locations, it is doubtful that the services can bring about large scale improvements in job aspects. Most likely, the bulk of the job associated disamenities for the Armed Forces are inevitable.

Pay itself is an important consideration and cannot fall too far behind without affecting both enlistment and retention. However,

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[17] Presumably the more qualified the individual the higher reference group he or she will use.

[18] This does not guarantee high job satisfaction, only a uniform level of satisfaction or dissatisfaction across branches of the service.

many Armed Forces jobs have reasonably pleasant job aspects and other extensive training in valuable skills. Apparently the "good" jobs are not difficult to sell, and they attract high quality volunteers, even at the present pay level. But the jobs with high disamenities, such as combat arms, offer a special challenge. Two basic approaches are possible: more direct pay could be offered either in the form of salary or bonus, or special incentives such as greatly improved post service educational benefits might be provided.

Which approach would be more effective cannot be determined with the data discussed in this chapter. However, based upon the findings in Chapter 2, where the Armed Forces were seen to be attracting a disproportionate number who aspire to be college graduates, and based upon subsequent findings in Chapter 6 concerning parental influence and concerning reasons for not joining a military service, the educational incentive may be more effective, especially in drawing high quality youth. In other words, for "good jobs" the services should continue to advertise skill training and growth opportunity in a vocation. But for "tough jobs," an instrumental approach could be taken; challenge, toughness, and post service educational incentives should be emphasized in advertisements.

APPENDIX B Items Used to Measure Job Characteristics

HAND CARD H. We would like to know what kinds of opportunities this job offers you. (First/Next), how much opportunity does this job give you (READ CATEGORY)--a minimum amount, not too much, a moderate amount, quite a lot, or a maximum amount? (READ CATEGORIES 1-5 AND CODE FOR EACH.)

		A Minimum Amount	Not Too Much	A Moderate Amount	Quite A Lot	A Maximum Amount
Skill Variety	To do a number of different things	1	2	3	4	5
Task Identity	To do a job from beginning to end--(PROBE IF NECESSARY: that is, the chance to do the whole job)	1	2	3	4	5
Task Significance	How much does your job give you the feeling that the job itself is very significant or important in the broader scheme of things	1	2	3	4	5
Autonomy	For independent thought or action	1	2	3	4	5
Feedback	How much does your job give you the feeling that you know whether or not you are performing your job well or poorly?	1	2	3	4	5
Dealing with others	To deal with other people	1	2	3	4	5
Friendship Opportunities	To develop close friendships in your job...	1	2	3	4	5

We would like to know how well or poorly each of the following statements describes your job. (First/Next), (READ CATEGORY). Thinking of your present job, would you say this is very true, somewhat true, not too true, or not at all true? HAND CARD I. THEN READ CATEGORIES 1-10 AND CODE FOR EACH.

		Very True	Somewhat True	Not Too True	Not At All True
Job Challenge	You are given a chance to do the things you do best...	4	3	2	1
Comfort	The physical surroundings are pleasant...	4	3	2	1
Valuable Skills	The skills you are learning would be valuable in getting a better job	4	3	2	1
Safety	*The job is dangerous...	4	3	2	1
Health	*You are exposed to unhealthy conditions	4	3	2	1
Pay	The pay is good...	4	3	2	1
Security	The job security is good	4	3	2	1
Co-Workers	Your co-workers are friendly...	4	3	2	1
Competent Superivsor	Your supervisor is competent in doing the job...	4	3	2	1
Promotion Chances	The chances for promotion are good...	4	3	2	1
Job Satisfaction	*How do you feel about the job you have now? Do you like it very much, like it fairly well, dislike it somewhat, or dislike it very much? CODE ONE ONLY.	4	3	2	1

Like it very much.....1
Like it fairly well.....2
Dislike it somewhat.....3
Dislike it very much....4

*Reversed scored

Table B1 Matrix of Zero-Order Correlation Coefficients Among Various Aspects of Job for Youth Ages 18-21 in Armed Forces and Employed Full-Time in Civilian Jobs: 1979

Aspects of job	Global job satisfaction	Variety	Others	Autonomy	Friends	Identity	Significance	Feedback	Challenge	Comfort	Skills	Safety	Conditions	Pay	Security	Coworkers	Supervisor	Promotion
Global job satisfaction	1.00																	
Variety	0.36	1.00																
Deal with others	0.18	0.30	1.00															
Autonomy	0.30	0.36	0.25	1.00														
Close friends	0.21	0.22	0.24	0.22	1.00													
Task identity	0.19	0.22	0.24	0.31	0.23	1.00												
Task significance	0.43	0.31	0.19	0.31	0.18	0.20	1.00											
Feedback	0.26	0.21	0.20	0.26	0.20	0.24	0.31	1.00										
Challenge	0.50	0.30	0.16	0.28	0.18	0.16	0.34	0.20	1.00									
Comfort	0.39	0.20	0.15	0.16	0.15	0.15	0.23	0.11	0.39	1.00								
Learn valuable skills	0.38	0.35	0.18	0.26	0.15	0.18	0.33	0.19	0.43	0.31	1.00							
Safety	0.05	0.04	0.09	0.01	0.00	0.06	0.03	0.04	0.00	0.22	0.00	1.00						
Unhealthy conditions	0.13	0.02	0.06	0.06	0.02	0.06	0.05	0.04	0.12	0.36	0.07	0.46	1.00					
Pay	0.32	0.17	0.03	0.12	0.11	0.09	0.23	0.11	0.23	0.21	0.18	0.01	0.05	1.00				
Job security	0.26	0.18	0.08	0.17	0.18	0.10	0.25	0.19	0.18	0.19	0.20	0.00	0.09	0.31	1.00			
Friendly coworkers	0.26	0.10	0.07	0.08	0.29	0.14	0.14	0.16	0.19	0.28	0.17	0.07	0.13	0.13	0.18	1.00		
Competent supervisor	0.26	0.08	0.03	0.13	0.10	0.10	0.20	0.14	0.22	0.27	0.14	0.07	0.15	0.19	0.21	0.30	1.00	
Promotion chances	0.35	0.26	0.14	0.22	0.19	0.13	0.30	0.16	0.32	0.23	0.33	0.01	0.09	0.30	0.32	0.17	0.26	1.00

Table 9.2 Zero-Order Correlation Coefficients Between Global Job Satisfaction and Various Aspects of Jobs Among Youth Age 18-21, by Sex and Survey Work Activity: 1979

Activity and sex / Aspects of Job	Total	Sex		Activity	
		Female	Male	Full time Civilian	Armed Forces
Variety	0.36	0.36	0.37	0.36	0.29
Deal with others	0.18	0.18	0.15	0.18	0.16
Autonomy	0.30	0.27	0.32	0.29	0.34
Close friends	0.21	0.20	0.22	0.22	0.18
Task identity	0.19	0.15	0.21	0.19	0.20
Task significance	0.43	0.44	0.42	0.44	0.41
Feedback	0.26	0.26	0.26	0.25	0.34
Challenge	0.50	0.45	0.51	0.49	0.44
Comfort	0.39	0.30	0.42	0.38	0.33
Learn valuable skills	0.38	0.33	0.41	0.37	0.36
Safety	0.05	0.10	0.03	0.03	0.11
Unhealthy conditions	0.13	0.06	0.12	0.11	0.15
Pay	0.32	0.33	0.32	0.30	0.25
Job security	0.26	0.28	0.25	0.28	0.15
Friendly co-workers	0.26	0.29	0.23	0.24	0.22
Competent supervisors	0.26	0.26	0.25	0.26	0.24
Promotion chances	0.35	0.30	0.40	0.37	0.22

CHAPTER 4

INTENTION TO REENLIST

One of the ways the armed forces achieve their personnel goals is to pursue a very active and attractive reenlistment program. The retention of an experienced work-force has the obvious advantage of saving recruitment and training costs associated with enlistments. Moreover, enlistees should be more productive on the job than a force dominated by more recent accessions. On the other hand, the retention of a disproportionate number of experienced workers means that the average age of the military force increases and the costs of salaries and future retirement benefits also rises.

Due to the young age of our sample - 14 to 21 on January 1, 1979 - the numbers were too small to conduct an analysis of the factors affecting reenlistments. However, all persons serving at the time of the interview were asked whether they intended to reenlist at the end of their current tour of service.[1] Based on their response we identified a sample of potential reenlistees, namely respondents who reported they would definitely or probably try to reenlist.

In this chapter we investigate the interrelationship between reenlistment intention and a number of factors expected to impact on the reenlistment decision. Among the factors studied are: job satisfaction, tenure, educational attainment, educational expectation, health, marital status, socioeconomic background, and incidence and duration of Armed Forces training, by type.

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[1] Although there were approximately 600,000 youth who were serving in the active forces approximately 50,000 enlistees in their second tour of duty are excluded from this analysis.

Overall, 1 in 4 males and about 4 in 10 females intend to reenlist (Table 4.1). Black males are more likely than white males to have positive intentions. In contrast, white females are significantly more likely than their black counterparts to intend to reenlist.

As expected, there is a strong association between reenlistment intentions and job satisfaction, with the satisfied male youth having a probability of reenlistment four times greater than the dissatisfied group. The same general pattern is found among females, but the relationship is not nearly as strong.[2]

The reenlistment intention rate among male youth is inversely related to the number of years served in the armed forces; first-year enlistees are about twice as likely as those with at least two years of service to express positive intentions to reenlist. This relationship generally prevails regardless of racial group. A similar association is found among females and is particularly pronounced among the whites.

The inverse relationship between reenlistment intentions and tenure is somewhat unexpected since in the civilian sector, one usually finds that the longer the period on the job the greater the attachment to the employer. An explanation for the declining job satisfaction and intention to reenlist with increased tenure is the difference in employee mobility in the civilian and military sectors. To the extent that an employee is not satisfied with his civilian job he can change employers. However, an enlistee is generally precluded from such a change until his tour of duty is completed. Thus, employees in the civilian sector who become

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[2] It will be interesting to trace and compare the career paths of enlistees who express satisfaction in their jobs but do not intend to reenlist and those who are dissatisfied with their work but intend to serve a second tour. The latter group may regard the Armed Forces as their only viable employment option while the former group may feel that they will encounter no difficulty in finding satisfactory work in the civilian economy.

Table 4.1 Reenlistment Intention Rate Among First-Term Youth in Armed Forces, by Sex, Race and Other Selected Characteristics: 1979

Race and sex / Characteristic	Males				Females			
	Total	Black	Hispanic	White	Total	Black	Hispanic	White
Total number (000)	579	115	39	426	49	10	2	37
Reenlistment intention rate	25	39	32	21	38	32	28	41
Job satisfaction								
Satisfied	37	53	41	32	48	45	b	49
Dissatisfied	9	18	21	6	17	18	b	18
Tenure								
Less than 13 months	36	54	b	30	48	18	b	60
13-24	25	34	b	21	35	58	b	29
25 months or more	19	30	b	16	29	b	b	31
Educational attainment								
Less than 12 years	24	48	b	18	b	b	b	b
12 years or more	25	37	34	21	38	32	28	41
Educational expectations								
12 years	24	43	b	20	24	b	b	25
13-15	23	28	26	21	43	51	b	42
16 years or more	27	42	b	21	40	26	b	45
Health status								
Does not affect work	24	38	28	20	38	30	50	39
Affects work	25	b	b	23	18	b	b	25
Education of parent[a]								
Less than 12 years	35	49	33	30	55	39	b	63
12	25	40	b	21	32	28	b	34
13 years or more	16	17	b	15	32	b	b	31
Marital status								
Married	28	54	b	22	23	b	25	24
Never married	24	35	34	20	45	35	37	48
Formal school training								
Less than 8 weeks	26	41	32	19	49	25	24	60
8 weeks or more	25	39	29	22	31	43	34	29

[a] Years of school completed by the parent in the household with the highest educational attainment.

[b] Less than 25 sample cases

dissatisfied in their jobs change employers lowering their tenure while their counterparts in the Armed Forces build up their tenure.

The number of years of school completed at time of entry into the armed forces has no overall effect on the reenlistment intention rate of male youth. However, black males with less than 12 years of school completed are about 1.3 times more likely than their high school graduate counterparts to have positive attitudes about reenlistment. The limited number of women in the Armed Forces with less than 12 years of school completed prevents us from studying this relationship for female enlistees.

We previously showed that the participation rate in the Armed Forces is positively associated with the number of years of school the respondent expects to complete (Table 2.2). Reenlistment intention rates also are positively correlated with educational expectations. The relationship is very modest for males but fairly strong for females.

The reenlistment intention rate for male enlistees is generally unrelated to health status. In the case of women enlistees, however, those who report their health affects the kind or amount of work they can do are about one-half as likely as their healthy counterparts to have positive attitudes about reenlistment.

We earlier found that the participation rate in the Armed Forces among white youth is negatively related to their socioeconomic background but that the association among nonwhite youth is positive (Table 2.1). In contrast, the reenlistment intention rate declines with increases in parental education for all race and sex groups. The below-average participation and reenlistment intention rates of white youth from above average family backgrounds suggest that this subgroup will become

an increasingly smaller part of the Armed Forces.[3]

We also observed earlier that the participation rate of married youth is higher than for those never married.[4] The reenlistment intention rate of male enlistees follows the same pattern, particularly among blacks where those who are married are about 1.5 times more likely than their never married counterparts to want to reenlist. This association is reversed for women, however, with the never married twice as likely as those married to have positive attitudes. These differences by sex may reflect a greater concern among married men about the availability of adequate job opportunities in the civilian economy while married females may find the Armed Forces less desirable because of their greater family responsibilities.

There are two obvious competing hypotheses about the relationship between the type and duration of training received and reenlistment intentions. On the one hand, those who receive some training may find that they can transfer their acquired skills to jobs in the civilian sector, suggesting below-average reenlistment intention rates for this group. On the other hand, the trained enlistee is a more valuable resource to the Armed Forces and may be induced to stay by being promoted more quickly and/or assigned to jobs with more favorable career paths. In this case we expect a positive association between training and reenlistment intention rates. Which of these two factors dominates is an empirical question.

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[3] Needless to say this implication only holds under the assumption that demand conditions do not change. If the Armed Forces decide to accept disproportionately more whites than nonwhites who want to reenlist, the racial imbalance by socioeconomic status will be less affected.

[4] The proportion of the Armed Forces sample, however, who are married is no larger than for the full time employed in the civilian sector.

There is almost no difference between the duration of formal school training in the Armed Forces and reenlistment intention rates among males, while among females there is a negative association with higher rates reported among women with shortest duration of training.[5]

To study possible interactions between length and type of training, enlistee characteristics and reenlistment intentions, we restricted the sample to enlistees who received at least 8 weeks of formal school training after completing basic training.[6] This stratification by duration of training eliminated from the sample all enlistees with no MOS/RATING/AFSC. We also restricted the analysis to white youth because of the limited number of black and Hispanic enlistees who had received training.

These restrictions do not generally alter our earlier findings (Table 4.2). One exception concerns the interrelationship between years of school completed and reenlistment intention rates for male enlistees. In the larger universe we found no relation between these measures; now we find male high school graduates with at least 8 weeks of formal schooling in the service are about 1.5 times more likely than their high school dropout counterparts to intend to reenlist. We also find in this more restricted universe a stronger relationship between educational expectations and reenlistment intentions among men. This finding does not generalize to women, however.

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[5] There is a very discernible association between the extent of the on-the-job training (OJT) and reenlistment intentions. Males who receive 8 or more weeks of training are about 1.3 times more likely to have positive intentions about reenlistment than those with no training or shorter periods of training. Among women the relationship is even stronger with those who receive longer priods of OJT about 1.5 times more likely to want to reenlist than women with less training. The definition of OJT used by the respondents is not clear, however. Therefore, we are uncertain of the meaning of this finding at this time.

[6] Eight weeks of training was selected as the dividing point because it was the modal frequency for those who received some training.

Table 4.2 Reenlistment Intention Rate Among First-Term Youth In Armed Forces With At Least 8 Weeks of Post Basic School Training, by Sex, Race, and Other Selected Characteristics: 1979

Race, sex / Characteristic	Males		Females	
	Total	White	Total	White
Total number (000)	291	229	23	19
Reenlistment, intention rate	25	22	31	29
Job satisfaction				
Satisfied	36	32	36	35
Dissatisfied	8	6	17	13
Tenure				
Less than 13 months	40	34	21	22
13-24	24	22	36	32
25 months or more	20	17	32	31
Educational attainment				
Less than 12 years	19	13	a	a
12 years or more	27	24	30	28
Educational expectation				
12 years	21	19	24	23
13-15	28	22	36	30
16 years or more	27	24	29	29
Health status				
Does not affect work	24	21	26	26
Affects work	a	a	25	26
Education of parent[b]				
Less than 12 years	30	28	36	41
12	28	23	33	31
13 years or more	19	20	24	20
Marital Status				
Married	29	23	24	23
Never married	24	22	35	32

[a] Less than 25 sample cases.
[b] Years of school completed by the parent in the household with the highest educational attainment.

The restriction of the universe does not substantially alter the inverse relationship between tenure and reenlistment intention rates for men, but it weakens the association for women, particularly for those with at least 8 weeks of formal school training. In the case of job satisfaction there is again no change for men, but a weaker relationship for women.

In summary, we find that reenlistment intention rates are positively associated with job satisfaction and inversely related to the number of months served in the armed forces. Reenlistment intention rates are also positively related to educational expectations, but there is no evidence of an association among male enlistees between propensity to reenlist and years of school completed. In contrast, we find a negative association between the education of the parent and the reenlistment intention of the enlistee. Married male enlistees report a higher propensity to reenlist than never married enlistees, but the relationship is reversed among females.

Even though some of the associations are weakened by the restriction of the universe to enlistees who received at least 8 weeks of formal school training, the most significant change has to do with the education measure. Whereas for the entire universe there was no association between schooling completed and reenlistment intention rates for male enlistees, among those who received at least 8 weeks of training, higher the educational attainment the more likely the reenlistment intention.

CHAPTER FIVE

POST-SERVICE STATUS OF PERSONS WHO HAVE LEFT THE ARMED FORCES

One of the most basic questions which the National Longitudinal Surveys will answer is what are the effects of military service on the subsequent labor market experience of young men and women. Because of the young age of the sample at the present time, there are relatively few respondents who have served in the military and reentered the civilian sector. In addition, those who have separated from the service are overwhelmingly (75 percent) persons who left before completing their initial tour of duty. Thus, we must wait until subsequent interview waves have been conducted to compare the experience of those who served in the military with those who choose not to volunteer.

We can, however, examine the nearly 200,000 male "attriters," persons leaving the military before completion of the tour of duty for which they originally contracted, to determine if these individiuals suffer in the labor market subsequent to their service. Several hypotheses may be offered which argue for poor performance by these individuals. First, they may not have the qualities which make them attractive to civilian employers in the same manner that they did not have the abilities to complete their terms of military service. The same factors which cause them to leave the armed forces may affect their ability to get and keep decent employment in the civilian sector. Second, employers may discriminate against these individuals by using the completion of a tour of duty as a screening device for hiring. A third factor weighing against success in the labor market is the fact that the attriters were out of the labor market and unable to build as much seniority as did those who never served.

All three of these reasons would lead one to believe that the attriters would have greater unemployment and lower quality jobs than would those who never served. We will test below whether this is in fact the case. We should note, however, that the small number of attriters in our sample at this time (83 men) makes this test highly tentative.

Table 5.1 compares the men who left the service with those non-veterans in the civilian population who are 18-22 years of age. In examining this table one immediately notices the much higher proportion of the civilian group who are enrolled in high school (13 percent) than is true of those who left the service before completing their tour of duty (3 percent). It would appear that the non-veteran group is younger than are the veterans.[1] Even so, however, the non-veteran group has a much higher percentage than the attriters enrolled in college (30 percent as opposed to 8 percent).[2]

When we turn to employment status we find little difference in the employment to population ratios of the attriters and the nonveterans. The unemployment rate, however, was higher for the attriters, 18 percent as compared with 12 percent.[3] This differential in unemployment rate is not large enough to be statistically significant due to our sample size.

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[1] An examination of the knowledge of world work scores, educational attainment and educational expectations for the attriters and the group who never served indicated very little difference between the two groups. Those who had completed their tour of duty, however, were substantially superior on all three aspects to the attriters and those who had never served.

[2] Among the very small number of veterans who had completed their tour of duty the enrollment rate in college was higher--21 percent.

[3] As one would expect the unemployment rate was much higher and the employment to population ratio much lower among those persons who had attrited from the armed forces during the preceding twelve months.

Table 5.1 Survey Week Activity of Veteran and Civilian Males Ages 18-22 Years Old, by Reason for Separation for Veterans: 1979

(Percentage distribution)

Activity and characteristics / Separations	Total separations	Attrites	Never served, Civilian population
Total sample (000)	260	195	8208
Activities			
Enrolled in high school	2	3	13
Enrolled in college	12	8	30
Employed	74	70	71
Unemployed	15	16	10
Not in labor force	11	14	19

Another dimension of post service success of the attriters, is shown by the types of jobs they hold and their satisfaction with them. Table 5.2 shows a slightly higher concentration of the attriters among service occupations and fewer professionals and managers and farmers. The hourly rate of pay of the attriters was slightly higher than that of the youth who had never served.[4] This difference, however, may reflect the greater number of students among the civilian group who are working part time. Finally, an examination of satisfaction with their jobs indicates that fewer of the attriters liked their work very much, but more of them viewed their jobs favorably than was true of the civilian nonveteran population.

Based on these data it appears that the servicemen who leave before completing their tour of duty are not subsequently disadvantaged in the labor market, particularly if some time has passed and they have had the opportunity to find employment. On the other hand, it is also clear that these individuals are not as highly qualified or as successful in the labor market as are those persons who have completed their service obligations. We conclude with the impression, although it is tentative because of the small number in our sample, that the persons leaving the armed forces prior to fulfilling their commitments are similar to the average person who never served and early termination does not harm them in the civilian sector.[5]

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[4] Those persons who had completed their tour of duty had substantially higher rates of pay than either the attriters or the non-veteran group.

[5] Their lower college enrollment rates, however, may indicate greater problems in the long run.

Table 5.2 Job Satisfaction, Occupational Status, Wage Rates of Employed Males 18-22 Years of Age by Type: 1979

(Percentage distribution)

Separations / Activity and characteristics	Total separations	Attrites	Never served, civilian population
Total sample (000)	192	136	5820
Job satisfaction:	100	100	100
Like very much	22	20	34
Somewhat like	69	69	50
Somewhat dislike	4	5	13
Dislike very much	5	6	4
One-digit occupation:			
Professional, managers	7	6	9
Sales, clerks	11	13	13
Blue collar	62	58	60
Service	19	23	16
Farmers	0	0	4
Hourly rates of pay: (dollars)			
$ 0-2.99	14	11	19
3-3.99	30	34	30
4-5.99	29	31	26
6-9.99	18	14	15
10.00 or more	0	0	1

CHAPTER 6

INTENTIONS TO SERVE

In the next five years, the pool of young men and women in the 18 to 21 year old age group will decline. Thus to maintain personnel strength the Armed Forces will have to increase the proportion of young people who enlist.[1] This will necessitate greater attention to the factors associated with enlistment rates and the reasons why young people choose not to enlist. In this chapter, we examine the attitudes of young people toward enlistment and their present intentions to enlist. We also focus on the responses of persons who chose not to enter the Armed Forces after first indicating an intention to do so.

Attitudes Toward the Military

Youth who had not served in the military were asked the following question, "Do you think for a young person to serve in the military is: definitely a good thing, probably a good thing, probably not a good thing, or definitely not a good thing?" We would expect that on average those persons who have a positive attitude (i.e., they believe the service is definitely or probably a good thing) are more likely to enlist than those with negative attitudes. In addition, this reaction indicates how the Armed Forces are generally viewed by young people. As can be seen in

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[1]Another, short run, solution would be to improve retention markedly.

Table 6.1, almost three-fourths of all young people were favorably disposed to service in the Armed Forces.[2] Further, we find little variation by race. Positive attitudes generally increased with age and females were slightly more favorably disposed than were men.

In Table 6.2, we present the proportion with positive attitudes for groups of youth displaying many characteristics. In this table we divide the young people into three groups: those age 14 to 17, who are as yet ineligible to enter the service[3]; persons 18 to 21 who are of prime enlistment age; and high school seniors, the group which is probably the most direct target for military recruiting.

The figures in Table 6.2 indicate a lack of systematic association between attitude toward the military and family income, but stronger approval of the military service is associated with lower socioeconomic backgrounds as shown by parents' educational level. Males not expecting to complete high school, men who do not have health problems which affect the amount or kind of work they can do, married men, and men and women who have not attended college all had about average proportions believing service was a good thing. None of these groups, however, was very far above average in their positive attitude toward military service. Consequently, we conclude that there are generally favorable attitudes toward service in the Armed Forces among all segments of youth.

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[2]Actually, a larger proportion of all youth would be favorably disposed to the Armed Forces since those currently serving in the military were not asked this question.

[3]While 17 year olds may enlist, the number who serves is extremely small.

Table 6.1 Proportion With Positive Attitudes Toward Armed Forces Among Youth 14-21 Years of Age Who Have Not Served by Year of Age, Race and Sex: 1979

Race / Sex	Total		White		Black		Hispanic	
	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent
Males								
14	1,581	68	1,255	70	214	61	112	57
15	2,198	67	1,719	68	325	58	155	68
16	2,044	67	1,639	67	276	65	129	72
17	2,063	77	1,631	77	291	78	142	76
18	2,033	77	1,599	78	300	74	133	74
19	1,985	77	1,633	77	246	77	106	78
20	1,947	75	1,607	76	220	69	118	74
21	1,770	76	1,448	76	217	77	105	88
Total	15,621	70	12,533	70	2,089	67	1,000	70
Females								
14	1,461	66	1,159	68	194	59	108	62
15	2,068	69	1,625	69	309	67	134	72
16	2,032	70	1,627	69	283	75	123	73
17	2,034	79	1,641	79	274	79	120	77
18	2,067	81	1,620	81	312	83	135	86
19	2,154	85	1,741	85	285	84	127	89
20	1,985	82	1,578	82	281	85	126	78
21	2,119	84	1,683	84	301	84	135	82
Total	15,920	75	12,674	75	2,239	75	1,008	75

Table 6.2 Proportion With Positive Attitudes Toward Armed Forces Among Youth 14 to 21 Years of Age Who Never Served by Age, Race, Sex, and Selected Characteristics: 1979

Race, Sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Education of Parent								
Age 14-17	70	70	66	69	71	71	7.	71
Less than 12 years	71	74	63	67	73	73	74	70
12	70	70	66	70	73	74	70	77
13 years or more	69	69	71	69	68	68	66	67
Age 18-21	76	77	74	78	83	83	84	84
Less than 12 years	80	82	74	82	85	85	84	82
12	77	78	73	72	83	83	86	87
13 years or more	74	73	79	67	83	83	79	86
High School Seniors	76	76	77	76	81	81	82	75
Less than 12 years	78	80	77	70	81	81	84	75
12	79	80	76	a	84	84	83	a
13 years or more	72	71	85	a	79	80	79	a
Family Income								
Age 14-17	70	70	66	69	71	71	71	71
Less than $10,000	70	73	65	74	70	72	68	67
$10,000 or more	69	70	6.	64	72	71	72	73
Age 18-21	76	77	74	78	83	83	84	84
Less than $10,000	76	75	75	84	85	84	86	84
$10,000 or more	77	77	73	75	83	83	81	88
High School Seniors	76	76	77	76	81	81	82	75
Less than $10,000	79	80	76	a	83	81	88	a
$10,000 or more	77	76	83	73	82	82	80	78

Table 6.2 (continued)

Characteristics \ Race, Sex	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Educational expectations								
Age 14-17	70	70	66	69	71	71	71	71
Less than 12 years	77	80	69	69	69	72	53	62
12	68	68	66	67	72	72	72	68
13-15	75	77	69	68	73	74	67	73
16 years or more	69	70	64	71	70	70	72	72
Age 18-21	76	77	74	78	83	83	84	84
Less than 12 years	81	82	76	85	76	79	65	70
12	79	80	76	81	85	85	84	85
13-15	78	79	71	73	85	84	89	91
16 years or more	72	72	74	73	82	82	83	83
High School Seniors	76	76	77	76	81	81	82	75
Less than 12 years	a	a	a	a	a	a	a	a
12	79	81	72	79	80	79	84	a
13-15	82	85	a	a	84	85	84	a
16 years or more	71	68	85	78	79	79	80	70
Health Status								
Age 14-17	70	70	66	69	71	71	71	71
Does not affect work	70	71	66	69	71	71	71	72
Affects work	63	64	65	a	72	73	67	60
Age 18-21	76	77	74	78	83	83	84	84
Does not affect work	77	77	75	79	84	84	84	85
Affects work	74	76	70	a	78	78	80	71
High School Seniors	76	76	77	76	81	81	82	75
Does not affect work	76	76	79	76	81	82	82	77
Affects work	a	a	a	a	a	a	a	a

Table 6.2 (continued)

Characteristics \ Race, sex	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Knowledge of The World of Work Score								
Age 14-17	70	70	66	69	71	71	71	71
0-5	68	68	66	68	68	69	67	69
6-7	67	68	62	59	72	73	71	69
8-9	71	71	59	77	67	67	74	72
Age 18-21	76	77	74	78	83	83	84	84
0-5	71	71	69	73	79	79	81	79
6-7	71	71	72	71	80	80	79	83
8-9	72	73	67	76	81	82	76	79
High School Seniors	76	76	77	76	81	81	82	75
0-5	73	72	78	67	80	79	83	70
6-7	80	80	86	66	79	80	74	80
8-9	68	68	63	a	75	74	87	a
Internality (Rotter) Score								
Age 14-17	70	70	66	69	71	71	71	71
4-8	70	72	64	65	69	69	67	71
9-16	66	66	65	68	70	70	71	68
Age 18-21	76	77	74	78	83	83	84	84
4-8	69	69	69	71	79	79	78	81
9-16	73	74	70	74	81	81	81	80
High School Seniors	76	76	77	76	81	81	82	75
4-8	74	75	74	62	75	73	79	80
9-16	74	72	80	80	83	84	83	65

Characteristics \ Race, Sex	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Employment Status								
Age 14-17	70	70	66	69	71	71	71	71
Employed	71	72	65	66	71	70	82	72
Unemployed	68	67	69	69	71	72	66	76
Age 18-21	76	77	74	78	83	83	84	84
Employed	70	70	68	75	82	81	82	85
Unemployed	76	79	68	75	80	79	82	82
High School Seniors	76	76	77	76	81	81	82	75
Employed	75	74	77	75	79	79	86	69
Unemployed	70	69	74	a	75	72	83	a
Age 18-21	76	77	74	78	83	83	84	84
Marital Status								
Married, spouse present	81	81	a	85	86	86	82	78
Never married	76	76	75	78	83	82	85	87
Grade Attending								
Attending high school	77	78	75	75	79	77	84	85
Attending college	73	73	74	72	82	81	85	81
Educational Attainment								
9-11 years	78	79	76	77	81	79	84	82
12	78	79	74	71	86	86	84	87
13 years or more	70	70	69	77	81	81	86	82

[a]Less than 25 single cases.

Intention to Enlist

A second question asked of all nonveteran youth who were not serving in the military was, "Do you think, in the future, that you will: definitely try to enlist; probably try to enlist; probably not try to enlist; or definitely not try to enlist in the military." This question provides a more direct test of individual enlistment intentions than the generalized question about young people serving in the military. Defining a positive enlistment intention as a statement that the respondent will "definitely" or "probably" try to enlist, we find approximately 3.9 million young men (25 percent) and 1.6 million young women (10 percent) have a positive propensity to enlist. This includes 35 percent of 14-17 year old young men, 16 percent of 18-21 year old males and 21 percent of male high school seniors. The rates are 13, 7 and 10 percent for the respective groups of young women.

As can be seen in Table 6.3, intention to enlist declines sharply with age for both men and women. The decline, however, is more precipitous for whites than it is for minority youth.[4] Further, a higher proportion of males than females express an intention to enlist in the military, although the difference between the intentions of young men and women is not nearly as great as present participation rates would indicate. It would appear based on these numbers that the pool of potential applicants among females will

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[4]Part of the decline with age of persons who intend to enlist is explained by omission from the group being examined of the youth who have already enlisted. However, using the participation rates of Chapter 2, we still see a substantial decline in the proportion who intend to or have enlisted as the youth get older although the decline for minority males would not be nearly as sharp as it appears in Table 6.3.

In addition, it would appear that the 18-21 year old group who wish to enlist is of a lower quality than persons serving in the Armed Forces, i.e., the services may have already skimmed much of the cream from this age group. The group saying they intend to enlist are lower than service personnel on educational attainment and expectations, KOWW, and parents' education and are more external.

Table 6.3 Proportion Intending To Enlist Among Youth 14 to 21 Years of Age Who Never Served, by Year of Age, Race and Sex: 1979

Race / Age, Sex	Total		White		Black		Hispanic	
	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent
Males								
14	1,581	40	1,255	38	214	47	112	48
15	2,198	39	1,719	38	325	42	155	51
16	2,044	32	1,639	28	276	48	129	49
17	2,063	29	1,631	25	291	43	142	45
18	2,033	25	1,599	21	300	41	133	40
19	1,985	17	1,633	14	246	35	106	24
20	1,947	13	1,609	10	220	27	118	17
21	1,770	9	1,448	5	217	27	105	23
Total	15,621	25	12,533	22	2,089	38	1,000	37
Females								
14	1,461	14	1,159	10	194	30	108	16
15	2,068	16	1,625	12	309	35	134	30
16	2,032	14	1,627	11	283	28	123	24
17	2,034	10	1,641	6	274	25	120	24
18	2,067	11	1,620	8	312	24	135	19
19	2,154	7	1,741	4	285	25	127	18
20	1,985	6	1,548	4	281	18	126	9
21	2,119	4	1,683	2	301	13	135	8
Total	15,920	10	12,674	7	2,239	24	1,008	18

increase in the next several years.

With the exception of 14 and 15 year old males, the intention to enlist in the Armed Forces is much higher among minorities than among white youth. Since blacks and Hispanics will make up an increasing proportion of young people in the next decade, their high enlistment propensities that minorities will constitute an increasing proportion of applicants to the services.

The enlistment intentions of different groups of youth are shown in Table 6.4. Many of the characteristics which were found to be related to a positive attitude toward the military are also evidently associated with intention to enlist.[5] Enlistment intentions are higher among youth for whom neither parent had attended college, for youth with families having incomes of less than $10,000, for youth who do not expect to go on to college, among those who are not currently employed, single youth, and youth who have not attended college. Thus, when we look at the characteristics of youth with high propensities to enlist, we find many of the factors which were hypothesized to occur with the changeover to an all volunteer force. Youth from lower socioeconomic backgrounds with less education and lower educational expectations are those who express the greatest interest in enlisting in the Armed Forces.

The findings in this chapter appear to contradict those of Chapter 2.

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[5]It should be noted that not all of the persons indicating an intention to enlist in the Armed Forces answered that service is a good thing for a young person. Approximately 530,000 young men and 140,000 young women ages 14-21 said service is probably or definitely not a good thing for a young person but at the same time indicated that they would probably or definitely try to enlist. The proportion of civilian youth who made these seemingly contradictory statements is inversely related to age, is higher among males than females, and is more prevalent among minorities than among whites. See Table C.1 and C.2 in Appendix C.

This group may see unemployment as their alternative to service and view enlistment as the lesser of evils. It will be interesting to follow these youth to see how many enlist and whether their earlier attitudes affect their performance in the service.

Table 6.4 Proportion Intending to Enlist Among Youth 14 to 21 Years of Age Who Never Served, by Age, Race, Sex, and Selected Characteristics

(In Percent)

Race, sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Education of Parent								
Age 14-17	35	32	45	48	13	10	30	24
Less than 12 years	46	43	49	55	21	15	36	26
12	35	33	45	43	12	9	27	24
13 years or more	25	25	31	32	8	7	21	17
Age 18-21	16	13	33	27	7	5	20	14
Less than 12 years	25	18	41	31	12	6	24	18
12	15	13	31	19	7	5	17	10
13 years or more	11	10	20	20	4	3	16	3
High School Seniors	21	18	37	35	10	7	25	24
Less than 12 years	38	35	49	33	21	12	38	34
12	25	23	32	a	7	4	22	a
13 years or more	11	9	27	a	6	6	0	a
Family Income								
Age 14-17	35	32	45	48	13	10	30	24
Less than $10,000	45	40	49	59	24	16	33	34
$10,000 or more	31	30	39	39	11	9	25	17
Age 18-21	16	13	33	27	7	5	20	14
Less than $10,000	20	13	40	a	10	6	21	a
$10,000 or more	14	13	24	22	6	4	10	17
High School Seniors	21	18	37	35	10	7	25	24
Less than $10,000	32	23	47	41	25	14	36	36
$10,000 or more	20	18	31	31	6	4	19	18

Table 6.4 (continued)

Characteristics \ Race, sex	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Educational Expectations								
Age 14-17	35	32	45	48	13	10	30	24
Less than 12 years	51	47	67	59	18	11	49	40
12	41	38	53	54	18	13	38	24
13-15	30	28	38	36	10	7	25	22
16 years or more	27	25	32	41	10	8	20	21
Age 18-21	16	13	33	27	7	5	20	14
Less than 12 years	28	23	52	29	6	3	29	9
12	22	17	45	34	8	4	25	18
13-15	15	14	23	16	9	6	16	17
16 years or more	10	7	22	25	6	4	18	10
High School Seniors	21	18	37	35	10	7	25	24
Less than 12 years	a	a	a	a	a	a	a	a
12	32	28	55	46	13	7	41	a
13-15	22	22	a	a	9	8	21	a
16 years or more	12	8	25	33	7	5	14	18
Knowledge of The World of Work								
Age 14-17	35	32	45	48	13	10	30	24
0-5	38	34	45	48	16	9	33	25
6-7	34	31	47	43	12	10	24	19
8-9	30	29	35	54	11	10	22	23
Age 18-21	16	13	33	27	7	5	20	14
0-5	19	14	34	25	9	4	23	15
6-7	15	13	27	27	5	4	18	9
8-9	11	10	27	22	7	6	11	16
High School Seniors	21	18	37	35	10	7	25	24
0-5	27	22	38	41	11	3	35	20
6-7	16	14	29	24	8	6	8	36
8-9	18	16	34	a	11	10	23	a

Table 6.4 (continued)

Race, sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Health Status								
Age 14-17	35	32	45	47	13	10	30	24
Does not affect work	35	32	45	49	13	10	30	24
Affects Work	29	27	41	a	17	14	27	29
Age 18-21	16	13	33	27	7	5	20	14
Does not affect work	16	13	33	27	7	4	21	13
Affects work	20	16	42	a	8	6	14	17
High School Seniors	21	18	37	35	10	7	25	24
Does not affect work	22	19	37	36	10	7	25	24
Affects Work	a	a	a	a	12	a	a	a
Employment Status								
Age 14-17	35	32	45	48	13	10	30	24
Employed	31	29	47	46	10	8	38	24
Unemployed	42	38	50	48	15	10	27	30
Age 18-21	16	13	33	27	7	5	20	14
Employed	14	11	32	23	6	4	18	15
Unemployed	29	25	36	40	11	6	22	21
High School Seniors	21	18	37	35	10	7	25	13
Employed	20	16	43	41	7	5	21	34
Unemployed	36	36	39	a	16	10	33	a

Table 6.4 (continued)

Race, sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Age 18-21								
Marital Status	16	13	33	27	7	5	20	14
Married, spouse present	10	8	a	27	2	1	10	6
Never married	17	13	34	27	9	6	22	18
Grades Attending								
Attending high school	29	23	44	46	16	10	31	29
Attending college	8	6	17	13	5	3	17	7
Educational Attainment								
9-11 years	28	21	47	38	14	8	29	20
12	12	10	26	14	6	5	18	12
13 years or more	7	6	11	17	3	2	8	6
Internality (Rotter) score								
Age 14-17	35	32	45	48	13	10	30	24
4-8	33	32	39	49	13	10	28	21
9-16	35	32	48	46	14	9	32	25
Age 18-21	16	13	33	27	7	5	20	14
4-8	16	13	31	25	6	4	14	12
9-16	15	12	33	26	8	4	25	15
High school seniors	21	18	37	35	10	7	25	13
4-8	19	15	41	31	8	5	24	23
9-16	23	20	34	35	21	8	26	24

[a]Less than 25 sample cases

Here, while we find higher intentions to enlist among minority youth, we do not find them among minorities from better backgrounds and with above average qualifications, although these youth had higher participation rates. It would also appear that those who wish to enlist are not of as high a quality as are the persons who do not have this intention; in contrast in Chapter 2 military personnel compared favorably with out of school youth employed full time in the civilian labor force. These apparent inconsistencies can be explained, however.

First, the military services select from those who intend to enlist to eliminate the poorly qualified. The recruitment standards mean that the persons who are selected for military service are likely to come from the more qualified segments of the pool of individuals who intend to enlist. Thus, we would have a larger proportion of the small group of highly qualified individuals who apply to the military actually accepted, while only a few of the large number of less qualified persons enter the service. Second, the selection criteria may eliminate proportionately more minority than white applicants. For instance, among male high school seniors, twice as many blacks and Hispanics indicate an intention to enlist than is the case for whites; the participation rate for minorities, however, is only 1.5 times that of whites. Thus, it would appear that more minorities who indicate an intention to join the military do not do so.[6]

One should also note that the group who indicate that they do not intend to enlist includes persons who go directly from high school to college. We know from a variety of data that this group comes from higher socioeconomic backgrounds, is very able, and by definition, has high educational expectations.

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[6] While the emphasis has been placed in the selection criteria eliminating more minority than white youth, it is also possible that more of these youth change their minds and do not apply.

In Chapter 2 we compared the persons in the military with those employed full time and found the service men and women to be of equal or superior caliber. In this chapter we are considering not only these individuals, but also the over 40 percent of young people who move from high school directly to college. While the military may be competitive with the civilian labor market, it is not competitive for the majority of youth who seek college educations at the time they graduate from high school.

Why Youth Choose Not to Serve in the Armed Forces

In the preceding section, we found that intention to enlist in the Armed Forces is inversely related to family background, educational expectations, and to some extent, capability. While many young people never intend to volunteer, there is a substantial group who do make an effort to enlist, but who do not subsequently serve. Based on our sample, over six million young people 18-21 had talked to a military recruiter to get information about a branch of the military. Almost one million of these entered the service. We asked the remaining individuals what was their primary reason for not enlisting.[7] The results appear in Table 6.5.[8]

Overall, 23 percent of the men said they decided to go to school instead of entering the service, 21 percent indicated that they did not think they would like the military, 17 percent decided to do something else, 6 percent

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[7]Others who did not meet the physical examinations or were in the delayed entry program were not asked these questions.

[8]Persons who had not completed nine years of schooling or who had completed college are not considered.

Table 6.5 Primary Reasons Never Served in Armed Forces Among Youth 18-21, by Race, Sex and Degree of Enlistment Effort: 1979

(Percentage distribution)

Race and sex / Reason	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
All respondents who talked to a recruiter (000)	2908	2325	456	127	1775	1352	333	91
Total percent	100	100	100	100	100	100	100	100
Else	17	17	19	20	23	24	17	31
Dislike	21	24	11	13	22	24	16	12
School	23	23	21	26	18	18	17	24
Civilian job	6	7	6	5	2	2	1	1
Other	33	29	43	36	35	32	49	32
Talked to a recruiter and plan to enlist (000)	710	469	198	43	276	150	99	28
Total percent	100	100	100	100	100	100	100	100
Else	18	21	13	9	18	18	15	34
Dislike	9	10	7	13	7	6	10	7
School	24	24	22	28	22	27	16	14
Civilian job	5	5	6	2	1	0	2	0
Other	44	40	52	48	52	49	57	45
Talked to a recruiter and took ASVAB (000)	829	635	161	34	501	371	99	31
Total percent	100	100	100	100	100	100	100	100
Else	17	17	22	8	27	30	12	43
Dislike	19	22	9	8	16	17	17	6
School	18	17	15	35	14	14	12	22
Civilian job	7	8	3	10	2	2	3	0
Other	39	36	51	39	41	37	56	30
Passed all entrance exams (000)	183	137	39	7	50	41	7	2
Total percent	100	100	100	100	100	100	100	100
Else	10	9	a	a	a	a	a	a
Dislike	9	10	a	a	a	a	a	a
School	23	27	a	a	a	a	a	a
Civilian job	9	9	a	a	a	a	a	a
Other	49	45	a	a	a	a	a	a

[a]Less than 25 sample cases.

got a better civilian job, and the remaining 33 percent gave a variety of other reasons. Among females the figures were 18, 23, 22, 2, and 35 percent, respectively. Among the persons listing other reasons, some of them indicate that they have not yet made a decision not to join. Nearly one million of the young who have spoken to a recruiter, but not served in the military, answered affirmatively the question indicating a positive intention to enlist in the military in the future.[9]

The categories of answers are not totally specific. We do not know whether the "something else" the youth decided to do was work or school, and we have a large proportion who gave various reasons which were not on our precoded list. We, therefore, thought it appropriate to examine the status of the persons who spoke to a recruiter but did not enlist (See Table 6.6) at the time of the interview. Approximately two-thirds of both the men and women were employed while about four-tenths were enrolled in school (these are not mutually exclusive categories). Thus, while a relatively small proportion of the youth said that they did not enter the military because they got a better job, a large majority ended up in civilian employment. Likewise, about two times more people ended up in school than listed this as their reason for not enlisting.[10] The employment and enrollment statuses of other (although overlapping) groups who talked to a recruiter--

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[9]We also examined the reasons given by two other subgroups of persons who contacted a recruiter; those who had taken the Armed Services Vocational Aptitude Battery (approximately 830,000 men and 500,000 women) and those who had passed the entrance examinations but then not enlisted (180,000 men and 50,000 women). Their reasons for not enlisting are similar to those for the entire population. See Table 6.5.

[10]Of course, the individual may have made the decision not to enter the military prior to deciding to go on to school or before accepting civilian employment. Thus, there could be a mismatch between the reason given for nonenlistment and activity at the time of the survey because of the different dating of the responses.

Table 6.6 Enrollment and Employment Status At Time of Interview Among Youth 18 to 21 Years Old, by Race, Sex and Degree of Enlistment Effort: 1979

Race, sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
All respondents who talked to a recruiter (000)	2,908	2,325	456	127	1,775	1,352	333	91
Percent enrolled	40	39	42	44	35	32	46	37
Percent employed	72	75	57	66	60	63	48	57
Talked to a recruiter and plan to Enlist (000)	710	469	198	43	276	150	99	28
Percent enrolled	42	43	37	46	38	29	51	36
Percent employed	63	66	56	63	57	61	47	69
Talked to a recruiter and took ASVAB Test (000)	829	635	161	34	501	371	99	31
Percent enrolled	30	28	35	45	31	28	44	29
Percent employed	78	81	68	61	57	60	44	52
Passed all entrance examinations (000)	183	137	39	7	50	41	7	2
Percent enrolled	40	44	a	a	a	a	a	a
Percent employed	74	79	a	a	a	a	a	a

[a]Less than 25 sample cases.

those who plan to enlist, those who too the Armed Services Vocational Aptitude Battery (ASVAB) and those who passed the entrance examinations --are not much different.

Based on these data it is not clear exactly how important civilian employment is as an alternative to young men and women considering the service. The substantial number attending school and the finding that this was the most often cited single reason for nonenlistment implies that additional educational incentives may be a more effective recruiting (and retention) device than an increase in military pay. Obviously to the extent that the services can identify the factors that shape the attitudes of young people to believe they will dislike military service and alter these factors or compensate for the disliked conditions, recruiting might also increase. This may not be an option, however, since there are some disamenities associated with military service which are unalterable (e.g., discipline).

Attitudes Toward Military Service of Significant Others

A major factor affecting a young person's enlistment propensity is the attitude toward service by his "significant other"-- that is, the person whose advice is considered most in important decisions. See Table 6.7.

In order to examine the attitudes of significant others toward various life and career decisions, all youth aged 14 through 17 were asked, "Who has influenced you the most on how you feel about things like school, marriage, jobs, and having children?" The respondents were then given a list of possible influencers ranging from parents through peers, sibling, other relatives, to "another type of person." About 70 percent selected one or both of their parents. Even though males were somewhat more likely than females to name parents, and were less likely to select peers, there are no major differences by either race or sex.

Table 6.7 Proportion Intending to Enlist Among Youth 14 to 17 Years of Age Who Never Served by Race, Sex and Attitude of Significant Other: 1979

(in percent)

Race and Sex / Attitude toward enlistment by significant others	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Strongly Approve	35	23	45	48	13	10	30	24
Somewhat approve	57	54	67	69	35	26	61	43
Somewhat disagree	21	19	32	29	7	5	20	18
Strongly disagree	16	14	20	30	6	5	14	9

Respondents were then asked how their respective principal influencer would feel toward various life and career decisions. The hypothetical decisions involved both positive and negative events and included the following:

Become a carpenter
Join the Armed Forces
Become an accountant
Become an electrical engineer
Not go to college
Move far away at age 21
Never have children

Response categories were based upon a scale from one to four, with one being equal to "Strongly Disapprove." Thus the higher the number, the more supportive the significant other is perceived to be for that particular decision. The neutral point would be 2.50.

Table 6.8 presents the perceived support from significant others for the seven hypothetical decisions, by sex. Parents are seen to be mildly positive toward joining the Armed Forces by males, and mildly negative by females. The least supportive group for joining the Armed Forces, for both males and females, is peers. Of the seven possibilities, the most negative thing, either males or females, could do in the eyes of parents is not go to college. Apparently college attendance by sons and daughters continues to be viewed as very important in the value system of parents as seen by their children. Thus, if parents continue to be the major group of significant others as the youth reach enlistment age and parents are viewed as valuing college attendance highly, then post service educational incentives may well be more effective than improved military wages in attracting recruits.

Table 6.8 Mean Support for Life Decisions of Youth 14 to 17 Years of Age, by Types of Significant Others and Sex of Respondent: 1979

Life decision	Unrelated adult	Parents	Unrelated peers	Sibling or Spouse	Other	Total
Percent choosing this group	6	70	12	6	6	100
You decided to become a carpenter.						
Female	2.46	2.64	2.47	2.53	2.38	2.60
Male	3.07	3.23	3.28	3.27	3.36	3.24
You decided to become an accountant.						
Female	3.19	3.49	3.29	3.34	3.43	3.43
Male	3.10	3.34	3.01	3.23	3.31	3.28
You decided to become an electrical engineer.						
Female	2.76	2.90	2.57	2.66	2.68	2.81
Male	3.37	3.50	3.46	3.45	3.51	3.49
You decided to join the armed forces.						
Female	2.17	2.31	1.95	2.13	2.04	2.23
Male	2.73	2.81	2.40	2.53	3.04	2.75
You decided not to go to college.						
Female	1.74	2.01	2.05	2.14	1.82	2.00
Male	1.99	2.01	2.43	2.23	2.03	2.07
You decided to move far away from where your parents live when you are 21.						
Female	2.60	2.27	2.57	2.49	2.11	2.34
Male	2.51	2.37	2.68	2.68	2.50	2.43
You decided never to have children.						
Female	2.11	2.31	2.18	2.31	2.29	2.27
Male	2.34	2.22	2.20	2.31	2.22	2.23

Appendix C

Table C1 Proportion With Positive Attitude To Armed Forces and Intending To Enlist Among Youth 14 to 21 Years of Age Who Never Served, by Year of Age, Race and Sex: 1979.

(In Percent)

Race / Sex	Total		White		Black		Hispanic	
	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent	Total number (thousand)	Percent
Males								
14	1,581	34	1,255	33	214	36	112	34
15	2,198	33	1,719	32	325	31	155	44
16	2,044	28	1,639	24	276	41	129	43
17	2,063	25	1,631	21	291	38	142	41
18	2,033	22	1,599	18	300	34	133	34
19	1,985	16	1,633	13	246	32	106	21
20	1,947	10	1,609	8	220	21	118	15
21	1,770	7	1,448	4	217	22	105	19
Total	15,621	22	12,533	19	2,089	33	1,000	33
Females								
14	1,461	12	1,159	9	194	24	108	11
15	2,068	14	1,625	10	309	28	134	28
16	2,032	14	1,627	11	283	24	123	21
17	2,034	9	1,641	5	274	23	120	23
18	2,067	11	1,620	8	312	22	135	18
19	2,154	7	1,741	4	285	22	127	18
20	1,985	6	1,578	4	281	15	126	8
21	2,119	4	1,683	2	301	12	135	8
Total	15,920	9	12,674	6	2,239	21	1,008	17

Table C.2 Proportion With Positive Attitude to Armed Forces and Intending to Enlist Among Youth 14 to 21 Years of Age Who Never Served, by Age, Race, Sex, and Selected Characteristics: 1979

Race, Sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Education of Parent								
Age 14-17	29	27	37	41	12	9	25	21
Less than 12 years	38	35	40	43	19	14	32	23
12	30	29	35	39	11	8	22	21
13 years or more	22	21	28	31	7	6	15	15
Age 18-21	14	11	28	23	7	4	18	13
Less than 12 years	22	17	34	27	11	6	21	17
12	12	10	26	17	6	5	15	10
13 years or more	9	8	18	14	4	3	14	3
High School Seniors	18	14	35	32	9	6	22	23
Less than 12 years	34	30	47	30	20	12	34	33
12	20	18	29	a	6	4	19	a
13 years or more	9	7	27	a	5	5	0	a
Family Income								
Age 14-17	29	27	37	41	12	9	25	21
Less than $10,000	38	34	40	48	21	14	28	30
$10,000 or more	27	26	31	33	10	8	20	15
Age 18-21	14	11	28	23	7	4	18	13
Less than $10,000	16	9	34	26	9	6	19	11
$10,000 or more	13	12	21	19	6	4	18	16
High School Seniors	18	14	35	32	9	6	22	23
Less than $10,000	27	17	45	a	23	13	33	a
$10,000 or more	18	16	31	29	5	4	15	18

Table C.2 (continued)

Characteristics \ Race, Sex	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Educational Expectations								
Age 14-17	29	27	37	41	12	9	25	21
Less than 12 years	46	45	49	49	13	9	27	39
12	34	31	43	43	16	12	33	20
13-15	27	25	32	35	9	7	19	20
16 years or more	23	21	27	37	9	7	18	20
Age 18-21	14	11	28	23	7	4	18	13
Less than 12 years	25	22	40	26	5	2	24	8
12	18	14	38	29	7	4	20	17
13-15	14	13	21	15	8	6	16	17
16 years or more	8	5	18	21	6	4	17	10
High School Seniors	18	14	35	32	9	6	22	23
Less than 12 years	a	a	a	a	a	a	a	a
12	25	20	51	39	13	7	37	a
13-15	21	22	a	a	9	8	18	a
16 years or more	11	7	25	32	5	3	12	17

Table C.2 (continued)

Race, Sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Health Status								
Age 14-17	29	27	37	41	12	9	25	21
Does not affect work	30	28	37	42	12	9	25	21
Affects work	23	22	37	a	14	11	22	24
Age 18-21	14	11	28	23	7	4	18	13
Does not affect work	14	11	28	23	7	4	18	13
Affects work	19	16	33	a	7	5	14	17
High School Seniors	18	14	35	32	9	6	22	23
Does not affect work	18	15	35	33	9	6	22	23
Affects work	a	a	a	a	6	a	a	a

Table C.2 (continued)

Characteristics \ Race, Sex	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Knowledge of the World of Work Score								
Age 14-17	29	27	37	41	12	9	25	21
0-5	32	29	38	40	14	8	27	22
6-7	29	27	36	39	12	10	22	19
8-9	27	26	29	44	10	9	19	23
Age 18-21	14	11	28	23	7	4	18	13
0-5	17	12	30	23	8	3	21	14
6-7	14	12	25	24	5	3	17	9
8-9	9	8	25	21	7	6	9	16
High School Seniors	18	14	35	32	9	6	22	23
0-5	22	16	37	38	10	3	30	20
6-7	15	12	29	24	7	5	8	36
8-9	16	14	28	a	10	9	23	a
Internality (Rotter) Score								
Age 14-17	29	27	37	41	12	9	25	21
4-8	29	28	32	41	11	9	23	21
9-16	30	26	40	40	12	8	27	22
Age 18-21	14	11	28	23	7	4	18	13
4-8	14	11	28	21	6	4	13	12
9-16	14	11	28	24	8	4	23	15
High School Seniors	18	14	35	32	9	6	22	23
4-8	17	13	40	29	7	4	23	23
9-16	19	16	31	35	11	7	22	24

[a]Less than 25 sample cases.

Table C.2 (continued)

Race, Sex / Characteristics	Males				Females			
	Total	White	Black	Hispanic	Total	White	Black	Hispanic
Employment Status								
Age 14-17	29	27	37	41	12	9	25	21
Employed	27	26	39	39	9	7	32	23
Unemployed	33	29	41	41	14	10	23	28
Age 18-21	14	11	28	23	7	4	18	13
Employed	12	9	29	21	6	4	18	15
Unemployed	27	24	30	40	10	5	20	21
High School Seniors	18	14	35	32	9	6	22	23
Employed	17	13	42	41	7	4	20	34
Unemployed	29	25	37	a	15	10	29	a
Age 18-21	14	11	28	23	7	4	18	13
Marital Status	14	11	28	23	7	4	18	13
Married, spouse present	10	8	a	25	2	1	9	5
Never married	14	11	29	23	8	5	20	17
Grade Attending								
Attending high school	24	19	38	38	15	9	28	27
Attending college	6	5	14	12	5	3	17	7
Educational attainment								
9-11 years	23	18	39	33	12	8	25	19
12	11	9	23	11	6	4	17	12
13 years or more	5	4	10	16	3	2	8	6

Chapter 7 SAMPLE DESIGN AND WEIGHTING

INTRODUCTION

The 1979 National Longitudinal Survey of Youth made use of three independent probability samples. Two of these samples were designed to cover the non-institutionalized, civilian population in the age range 14-21 (as of January 1, 1979). A third sample was designed specifically to cover the military portion of the 14-21 age cohort.

The two samples which cover the civilian portion of the age cohort will be referred to by the terms "cross-sectional" and "supplemental." The study design for the 1979 National Longitudinal Survey of Youth required extensive disproportionate oversampling among Hispanic, Black, and Economically Disadvantaged non-Hispanic non-Black youth. The cross-sectional sample was designed to yield approximately 3,000 males and 3,000 females, with various racial, ethnic, and income groups represented in their proper population proportions. The supplemental sample was designed to produce, in the most statistically efficient way, the required oversamples of Hispanics, Blacks and Economically Disadvantaged non-Hispanic non-Blacks. The distribution of year one sample cases across these two samples is shown in Table 1.

TABLE 1

DISTRIBUTION OF COMPLETED CASES ACROSS
CROSS-SECTIONAL AND SUPPLEMENTAL SAMPLES

Population Group	Sample Size		
	Cross-Sectional	Supplemental	Total
Male			
Hispanic	207	716	923
Non-Hispanic Black	342	1,101	1,443
Economically-Disadvantaged	166	756	922
Other	2,290	—	2,290
Female			
Hispanic	215	734	949
Non-Hispanic Black	399	1,078	1,477
Non-Hispanic Non-Black Economically Disadvantaged	163	915	1,078
Other	2,330	--	2,330

CROSS-SECTIONAL SAMPLE

The cross-sectional sample used for the non-institutionalized civilian portion of the 14-21 youth cohort was based upon the 102 PSU NORC National Probability Sample. This sample was developed and initially used in 1973. The sample has been continuously updated since that time. The sampling frame covers the continental United States.

Stage I. The Primary Sampling Units are composed of: Standard Metropolitan Statistical Areas (SMSAs), counties, [1] parts of counties, [2] and independent cities. Stratification criteria used in the first stage of selections include: Census Division, SMSA-nonSMSA, county size, and percentage black. The selection of primary units was carried out with probabilities proportional to 1970 Census population (PPS), using replicated "zone" selection. A total of 204 PSUs was selected. In this survey, we made use of two of the four replicates comprising 102 PSUs.

Stage II. The secondary units of selection are block groups (BGs) in areas for which Census blocks have been designated, and enumeration districts (EDs) in unblocked areas. Prior to selection, the second-stage (within-PSU) frame of EDs and BGs was stratified on the basis of median family income and percentage black. [3] For each primary sampling unit, eighteen secondary selections were made with probability proportional to size from eighteen equal-size zones. A subsample of nine secondary units was used for the 1979

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[1] Where necessary, counties were combined so that their aggregated 1970 population exceeded 12,000.

[2] In New England, we defined the portion of a county outside an SMSA as a PSU.

[3] In areas that were not tracted, median household income and percentage black were estimated using a regression routine based on MCD or tract information.

National Longitudinal Survey of Youth.

Stage III. Whenever possible, secondary selections were subdivided[4] into third stage listing units (segments).[5] One listing unit was then selected for each secondary selection with probability proportional to estimated housing. If it was impossible to subdivide a secondary selection into well-defined subunits, this stage of sampling was bypassed (i.e., subsampling at Stage III was accomplished with probability one).

NORC interviewers have carried out dwelling unit listing within all third-stage segments. Prior to initial use, those listings were subjected to a number of checks.[6] In order to maintain an accurate record of dwelling units, master sample listings are periodically updated. This updating procedure occurs at the end of the field period for each research study. During the updating period, and in conjunction with NORC "missed dwelling unit" procedure, information is gathered regarding changes in the entire segment (e.g., demolition of DUs, new construction). This information is then integrated into our computer-based Master Listing of NORC PSUs.

Stage IV. Approximately 20,500 listed DUs and IQs[7] were screened (household rosters were obtained) from the cross-sectional sample. Stage III segments were subsampled in order to produce an equal probability sample of households and individual quarters distributed among the 909 segments (101 PSUs x 9 segments per PSU). Selection of these listings was accomplished through the use of ANSPAK (NORC's computerized sampling program package). There were an average of twenty-two selected dwelling units and IQ's per sample cluster resulting in an average of 6.8 inscope youths. All inscope youths found in this screening stage were designated for subsequent interview.

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[4] For BGs we employed Block Statistics, for EDs we made field counts.

[5] The minimum size for listing units was 100 DUs.

[6] A comparison was made with Census estimates and/or field counts. Also, a number of internal consistency checks for sequential listing and procedures were initiated.

[7] INDIVIDUAL QUARTERS (IQ) is a term used to describe non dwelling unit non-institutional living quarters.

SUPPLEMENTAL SAMPLE

As noted previously, this sample was designed specifically to yield a highly efficient sample of the three youth cohorts designated for over-sampling (i.e., Hispanics, non-Hispanic Blacks, and non-Hispanic non-Black economically disadvantaged). Thus for this sample, stratification specifically relevant for these groups was used. In addition, Probability Proportional to Size (PPS) procedures were based on size measures for these cohorts rather than the general population. In multi-stage samples, PPS procedures are used in order to achieve control over the distribution of sample cases among the primary sampling units and within the ultimate clusters that form the primary sampling units. By using size measures based on the three over-sampled cohorts, it was possible to more nearly equalize the distribution of these groups among the various sampling units than would have been possible in a cross-sectional design which used PPS procedures based on total population.

STAGE I

Primary sampling units consisted of counties and independent cities. First-stage selection of these units was carried out with probabilities proportional to measures of size that reflected the black, Hispanic and economically disadvantaged population within the PSU. These measures of size were constructed from the 1970 Census Fifth Count (File C), which provided required estimates at the enumeration district-block group level within each county and independent city. Prior to use, 1970 size estimates were updated to 1977 Census estimates on a county basis.

For each primary sampling unit a measure of size was constructed as

$$MOS_i = H_i + .5 \times B_i + ED_i$$

where H_i, B_i and ED_i denote the estimated population sizes for Hispanics, blacks and economically disadvantaged non-Hispanics non-Blacks respectively.

Given that the measures of size need only reflect relative population size, and given the relatively uniform ratio of estimated 14-21 cohort to total population, no attempt was made to reapportion size measures to the youth cohort. The factor of .5 applied to the Black population in the construction of PSU measures reflected the fact that among the three population groups of interest the oversampling rate for Blacks was approximately one half the rate

to be used for Hispanics and economically disadvantaged non-Hispanic non-Blacks. Prior to sample selection, PSUs were stratified on the basis of the 9 standard Census Divisions. Within each of these divisions, further stratification was based upon Urban-Rural location (within or outside and SMSA). Finally, within each of the 18 major strata (9 divisions x 2 urban/rural classes) PSUs were ordered by proportion of PSU population containing target group members. A systematic "zone" selection procedure was used to select 100 Primary Sampling Units with probabilities porportional to the previously discussed target group measures of size.

STAGE II

Within selected primary units, the units of second stage selection were either Census block groups or enumeration districts. These second stage sampling units were assigned measures of size by the same procedure that had been used in constructing measures at the first stage of sampling. Since the first stage measures had been created by aggregating information at the block group and enumeration district level, from the Fifth Count File C Census tape, the process of assigning second stage measures was simply a disaggregation procedure.

Prior to selection, second stage units were sort ordered by estimated proportion of population containing members of the target population. Adjoining units were then linked, when necessary, in order to have a minimum size measure of 25.

Within each selected primary sampling unit, nine secondary units were selected using a systematic zone procedure with probabilities proportional to target group measures of size.

STAGE III

Whenever possible, selected secondary selections were subdivided into third stage listing units (segments). One listing unit was then selected for each secondary selection with probability proportional to estimated housing. If it was impossible to subdivide a secondary selection into well defined subunits, this stage of sampling was bypassed (i.e. subsampling at stage III was accomplished with probability one). It should be noted that because measures of size used at stages one and two were based upon target population rather than total population, the number of housing units con-

tained within any two third-stage segments with the same measure of size might be quite different. In general, we tried to make use of third stage segments containing measures of size in the range 25-50 with between 50 to 500 housing units.

NORC interviewers carried out dwelling unit listings within all 900 third stage segments. Prior to use, these listings were subjected to a number of internal and external checks. Listers were required to seek out reasons for differences between number of housing units found at the time of listing and the number of housing units reported by the 1970 Census. Within each block, checks were made, where possible, for consistent ordering of street numbering of listed units.

STAGE IV

The fourth stage of selection involved selecting a sample of dwelling unit and individual quarters listings within the 900 selected third-stage segments. Screening, which involved enumeration of all persons within selected dwelling units (on a family unit basis) was conducted in two Waves. In general, selection of third stage listings was carried out with probabilities designed to equalize the overall probability of selection through the four stages of sampling. However, there was some degree of oversampling (increased probability of selection) among third stage units which were estimated to contain a higher proportion of individuals in the three population groups designated for overrepresentation (i.e. Hispanics, non-Hispanic Blacks, and economically disadvantaged non-Hispanic and non-Blacks).

The fourth stage of sampling resulted in the selection of approximately 65,000 listed lines (dwelling units and indidividual quarters) over the 900 third stage segments.

STAGE V

Family unit screening of selected dwelling units and individual quarters selected at stage IV produced somewhat more individuals in the Hispanic and non-Hispanic Black cohorts than were required. As a result, it was necessary to select a subsample of these individuals for base year interviewing. Table II shows the number of individuals in each of the six oversampled cohorts that were located in the screening phase and the number selected for base year interviewing.

TABLE II

NO. OF INDIVIDUALS LOCATED IN SCREENING AND DESIGNATED FOR BASE YEAR INTERVIEW-SUPPLEMENTARY SAMPLE

DESIGN COHORT	LOCATED IN SCREENING	SELECTED FOR BASE YEAR INTERVIEW
MALES		
HISPANIC	1,015	854
NON-HISPANIC BLACK	1,318	1,268
ECONOMICALLY DISADVANTAGED (non-hispanic non-black)	887	886
FEMALES		
HISPANIC	1,060	855
NON-HISPANIC BLACK	1,502	1,204
ECONOMICALLY DISADVANTAGED (non-hispanic non-black)	1,073	1,073

Procedures used for the selection of individuals for base year interview were designed to equalize, as much as possible, final overall probabilities of selection for individuals within the same design cohort. Specifically, since some degree of differential oversampling was applied in the fourth stage selection of dwelling units for screening, individuals located in the screening process had not been selected with the same probabilities. Within the constraints of probability sampling, probabilities associated with the stage five subsampling process were set inversely proportional to the probabilities of selection for prior stages (i.e. product of stages one through four). As a result, the variation in probability of selection among individuals (within a design cohort) retained in the sample after stage five was decreased from the variation in probabilities among all screened individuals within the same design cohort.

SPECIAL PROCEDURES USED IN BOTH THE CROSS-SECTIONAL AND SUPPLEMENTAL SAMPLES

There were several special procedures used in both the cross-sectional and supplemental samples to accomplish the following goals:

1. Inclusion of Dwelling Units in the sample which were either missed in the listing process or were constructed after the listing process took place.
2. Inclusion in the sample of non-college individuals living in non-institutionalized, non-dwelling unit living arrangements.
3. Inclusion in the sample of college students living in non-dwelling unit quarters.

PROCEDURES FOR INCLUSION OF UNLISTED (MISSED) DWELLING UNITS

As part of its standard field methods, NORC makes use of a procedure to give a proper probability of selection to dwelling units that did not exist or were missed at the time of original listing or during segment updating. The method we employ is an application of the half-open interval technique. This procedure explicitly links every nonlisted DU in a segment with exactly one listed DU in that segment.

It should be noted that through the implementation of the half-open interval procedure each listed dwelling unit represents a cluster of dwelling units. This cluster is composed of the listed DU (line) and any other missed DUs associated with that line.

Conceptually, the procedure is simple. The set of DU listings (lines) for a segment is made up of one or more subsets of lines (blocks). Each block consists of an ordered set of lines. Each of the lines represents either a complete structure (i.e., a single-family dwelling unit) or a subunit within a structure (i.e., an apartment in an apartment building or complex).[8] Whenever a line is selected that is a complete structure, all dwelling units within that structure are included in our sample, as are any dwelling units between[9] the selected structure and the next structure listed in the same block.[10]

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[8] Even if a listing contains a within-structure description (e.g., 304 Main, 2nd floor) it is considered a structure listing if there is no other listing that refers to that structure.

[9] If structures have numbered street addresses, "between" is defined in terms of these address numbers. In areas where numbers are not used, "between" is defined in terms of location.

[10] The listings within each block are considered circular (i.e., the last listing within a block is followed by the first).

If a selected line is a complete structure, our insturctions to the interviewer are as follows:

(selected line description)
Message 1: Check for missed DUs at the address above.
Check for missed DUs between street address above and street address below.
(next listed line description)

For each listing that identifies a subunit within a structure, there must be at least one other listing within the same structure.[11] Our listings are so ordered that for each structure in which subunits are listed there must be a unique first-subunit and a unique last-subunit listing.

When we select the first subunit in a multiple structure, we include in our sample all dwelling units that exist within the selected subunit, as well as any dwelling units within the structure that are not already listed. When the first subunit of a multiple structure is selected, the following instruction is given to the interviewer:

(selected line description)
Message 2: Check for missed DUs at this apt. number.
Check for DUs at this street address not listed on the (attached) segment printout.

When the selected line is the last subunit listing of a multiple structure, we include in our sample all dwelling units within the selected subunit and all dwelling units between the structure in which the subunit is contained and the next listed structure in the block. Here the instruction to the interviewer is:

(selected line description)
Message 4: Check for missed DUs at this apt. number.
Check for missed DUs between this street address and the street address below.
(next listed line description)

If the selected line is a non-first/non-last subunit listing, we include in the sample only dwellings within the selected subunit. In this case, the following instruction is used:

(selected line description)
Message 3: Check for missed DUs at this apt. only.

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[11] This follows from the definition of a listing as either a complete structure listing or a subunit within structure.

PROCEDURES TO INSURE COVERAGE OF THE NON-DU POPULATION (COLLEGE DORMS AND OTHER GROUP QUARTERS)

Since the initial cohort definitions include civilian youth aged 14 to 21 living in all noninstitutional settings, special procedures were used to insure appropriate sample coverage in living units not classified as dwellings. These nonDU living units include college dormitories and other group quarters.

In past surveys of the noninstitutional adult population, NORC has used a single procedure to obtain sample coverage of the nonDU, noninstitutional civilian population. Because of the restricted age distribution in the proposed survey, NORC made use of two procedures. One of these procedures was used to cover the noncollege portion of this nonDU population: another procedure was used for college students.

PROCEDURES FOR THE INCLUSION ON NONCOLLEGE "GROUP QUARTERS"

The inclusion of the noncollege, noninstitutional, nonDU population aged 14 to 21 was accomplished by the following two-stage procedure. The first stage was carried out prior to the beginning of field interviewing. Each segment in use for the survey was field enumerated for all group quarters structures, except college dormitories. Within these group quarters structures, a complete listing of individual quarters (IQs: beds and/or rooms with beds) was undertaken. The listing of IQs was then subsampled using the same final-stage selection procedure applied to dwelling units within the segment.

The second stage in the NORC group quarters sampling procedure was carried out at the time of screening in conjunction with the standard NORC missed dwelling unit procedure. All group quarters except college dorms that were not explicitly listed in the first step of the individual quarters procedure were eligible for selection at this stage. These non-first-stage group quarters are implicitly linked to listed dwelling units by the same linking rules applicable to nonlisted dwelling units. For each selected dwelling unit, a check was made for implicitly linked but unlisted dwelling units as well as for implicitly linked but unlisted individual quarters units. As is the case with our missed dwelling unit procedure, the instructions for the missed individual quarters procedure were computer-generated for each selected dwelling unit. The interviewer was provided with specific instructions indicating the appropriate DU/IQ checks that must be carried out at each selected dwelling unit.

SPECIAL PROCEDURES FOR COLLEGE STUDENTS

As of October 1976, approximately one-third of the civilian population between the ages of 18 and 21 was enrolled in college.[12] In many household surveys the coverage of the college population is haphazard and ill-defined. Given the nature of the proposed research, special procedures were used to insure complete coverage of this portion of the youth cohort.

Through a set of explicit rules, every full- or part-time college student was "linked" to a unique living unit that had a known probability of entering the sample. These rules "link" college students who live in a non-DU setting (Dorms) away from their parents' homes for parts of the year to their parents' home. This alternative was chosen for both sampling and operational reasons. From a sampling standpoint, linkage of college students living in non-DU settings to parents' DUs will tend to minimize the occurrence of small area "pockets" of inscope population and the resulting large variability in cluster size. From the standpoint of field operations, the parents' home represents a contact location of relative stability. This will be most crucial in the yearly follow-up efforts.

The specific linkage rules are as follows:

- College students who live in a specified dwelling unit on a year-round basis are linked to that dwelling unit.
- College students who do not live in dwelling units on a year-round basis are linked to their parents' or guardians' DUs.
- In situations where the application of this condition results in multiple linkages (e.g., divorced or separated parents living in two separate DUs), a unique linkage is established on the basis of maximum financial support.

Should this condition not provide a unique linkage, the following priority scheme is used:

- Living natural or adoptive mother
- Living natural or adoptive father
- Living female guardian
- Living male guardian

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[12] Source: U.S. Bureau of the Census School Enrollment-Social and Economic Characteristics of Students P20N309

Should these rules provide no linked DUs, a student was linked to his or her non-year-round place of residence.

In order to implement this procedure, we collected potential linkage information at all sample DUs and GQs (i.e., we asked parents about children that are away at school). In most situations, unmarried college students in the 14 through 21 cohort were linked to their parents' DU; married couples or cohabiting couples living in DUs on a year-round basis were linked to their own DUs, married couples or cohabiting couples not living in a DU on a year-round basis were linked to their respective parents' DUs.

SAMPLE OF YOUTH COHORT IN ACTIVE MILITARY SERVICE

As of September 30, 1978, there were 657,549 members of the Active Armed Forces who would be between the ages of 17 and 21 as of January 1, 1979. Individuals in this group were sampled by a stratified, two stage selection procedure. The sample design for this portion of the youth cohort was developed in cooperation with DOD, Defense Manpower Data Center, the Rand Corporation DOD Survey Group, the NLS staff and NORC. Actual selection of sample individuals was carried out jointly by DOD, Defense Manpower Data Center and NORC.

The basic sample design called for the selection of a sample of approximately 1300 members of the active armed forces. In order to provide samples of sufficient size for separate estimates with respect to sex, it was decided to sample females at a rate approximately six times that used for males. This would produce approximately 850 males and approximately 450 females. Within each group, all individuals were to be sampled with equal probability. Within each sex, the sample was stratified on the basis of branch of service and geographic location. Proportionate allocation was used with respect to these stratification cells. Sample selection was carried out in two stages.

STAGE I

Each of the four armed services (Army, Air Force, Navy and Marine Corps) maintains up to date lists of all personnel. Included in these lists is information about age, sex and assignment UIC (unit identification code). It would have been possible to sample individuals from these lists directly in a single stage of sampling (i.e. simple random element sampling), however, because of the face-to-face nature of the base year interview, it was decided to make use of cluster sampling.

The primary units of sample selection were composed of individuals within the same unit identification code. This unit code typically defines a group of individuals residing at the same physical location. Over all services there were a total of 12,488 UIC's containing one or more persons in the 17 - 21 youth cohort. Because of the differential sampling rates to be applied to males and females, these UIC's were first separated into two groups: Group 1 consisted of UIC's with no females in the 17 - 21 cohort; Group 2 consisted of UIC's with at least one female in the 17 - 21 cohort.

Each of the two groups of UIC's was divided into 20 basic strata, defined on the basis of armed service branch and geographic location as follows:

I. ARMED SERVICE BRANCH: (4 branches)

- A. ARMY
- B. NAVY
- C. AIR FORCE
- D. MARINE CORPS

II. GEOGRAPHIC LOCATION (5 categories)

- A. EASTERN UNITED STATES
- B. WESTERN UNITED STATES
- C. EUROPE
- D. FAR EAST
- E. OTHER

Within each of these 20 basic strata UIC's were linked together in order to form primary sampling units (PSU's) as follows:

1. UIC's in group 1 (males only) were linked in order to form PSU's with a minimum of 20 males.
2. UIC's in group 2 (at least one female) were linked in order to form PSU's with a minimum of 20 males and 10 females.

In the linkage process, attempts were made to minimize the geographic distance among UIC's within the same PSU. This linkage process resulted in the formation of 3,711 group 1 and 2,256 group 2 PSU's across the 20 basic strata.

First stage selection of PSU's was carried out within each of the 20 basic design strata separately for males and females. Within each sex the probability of selection for a PSU was proportional to the number of 17 - 21 youth (of that sex) within the PSU.

Let MOS_{mi} = the number of 17 - 21 males within the i^{th} PSU

MOS_{fi} = the number of 17 - 21 females within the i^{th} PSU

For the male sample, the probability of selection for the i^{th} PSU was

$$f_{mi} = \frac{150\ MOS_{mi}}{579,508}$$

For the female sample, the probability of selection for the i^{th} PSU was.

$$f_{fi} = \frac{110\ MOS_{fi}}{47,305}$$

For both the male and female samples the probability of selection for the i^{th} PSU was constrained to an upper limit of unity. Thus, any PSU whose measure of size for males (MOS_{mi}) exceeded 579,508/150 = 3863.38 was selected with certainty. Any PSU whose measure of size for females (MOS_{fi}) exceeded 47,305/110 = 430.05 was selected with certainty.

It should be noted that although separate samples were selected for males and females, a form of the Keyfitz procedure was used in order to maximize the overlap between PSU's selected for the male sample and PSU's selected for the female sample.

In total, 146 PSU's were selected for the male sample and 103 PSU's were selected for the female sample. The overlap among these units was 58.

STAGE IIa

Within PSU selection was carried out by DMDC. On the basis of specifications provided by NORC. selected PSU's were subsampled at the rates $13.35/MOS_{mi}$ for the male sample and $9.35/MOS_{fi}$ for the female sample. In those instances where stage one PSU selection had been made with certainty (probability = 1) within PSU selection was carried out with sampling rates 1/289.3922 for male sample PSU's and 1/45.7495 for female sample PSU's. This sampling produced a list of 3,073 persons.

STAGE IIb

The sample produced at Stage IIa was systematically subsampled at a rate of one in two in order to provide 1,537 names. Prior to subsampling the Stage IIa list produced by DMDC was ordered by PSU in order to assure that all PSU's would be included in the subsample. Subsequently, an additional subsample of 256 names were selected by systematic selection from the remaining unselected names on the DMDC Stage IIa sample list.

In combination these subsamples produced a uniform stage IIb subsample rate of 1792.5/3073.

OVERALL SAMPLING RATES

The stages of sampling described above produced the following over all sampling rates:

$$f(\text{males}) = \frac{150\ MOS_{mi}}{579{,}508} \times \frac{13.35}{MOS_{mi}} \times \frac{1792.5}{3073} = 1/496.124$$

$$f(\text{females}) = \frac{110\ MOS_{fi}}{47{,}305} \times \frac{9.35}{MOS_{fi}} \times \frac{1792.5}{3073} = 1/78.851$$

DESCRIPTION OF WEIGHTING: NON-MILITARY

OBJECTIVES

Data weighting for the initial year cohort involved five basic steps. These steps were designed to accomplish the following objectives:

1. Correction for differential probability of selection at the initial stage of household selection.
2. Correction for differential completion rates at the initial "screening phase" of data collection.
3. Correction for differential subsampling rates for Hispanic and Black cohort members prior to initial interview. Correction of differential completion rates among all cohort members at the first year interview stage of data collection.
4. Proper combination of cases obtained in the cross-sectional and supplemental samples; across these samples.
5. Adjustment of weighted cohort sizes to conform with outside, independent Census estimates projected to January 1, 1979.

PROCEDURES AND STEPS

1. In the initial step, weights were assigned to each completed case on the basis of the selection probability for the dwelling unit which contained the family unit where the respondent was initially located (i.e. listed). For the ith respondent, this weighting factor was

   $W_{1i} = 1/f_i$, where f_i is the probability of selection for the dwelling unit containing the family unit where the respondent was initially listed in the screening process.

2. In this step, a cluster specific adjustment was introduced in order to compensate for differential completion rates in the family unit within dwelling unit screening process. There were 1,818 selection clusters in the entire sample (918 in the cross-sectional sample and 900 in the supplemental sample).

   For the ith respondent, this adjustment factor was

$$W_{2i} = \frac{\text{Number of family units selected in the cluster containing the ith respondent}}{\text{Number of family units in the ith respondent's cluster where screening information was obtained}}$$

In those instances where refusals were encountered at the dwelling unit level (i.e. it was impossible to determine whether or not there was more than one family unit within the dwelling unit), the ratio of family units to dwelling units for the remainder of the cluster was used to estimate the number of family units contained within the dwelling unit. W_{2i} was constrained to an upper limit of 1.5.

In this step adjustments were made for the additional stage of subsampling applied to Blacks and Hispanics screened in the supplemental sample prior to initial interview. In addition, adjustment factors were applied to all selected respondents to compensate for differential response rates in the first interview. These non-response adjustment factors were applied at the PSU level (102 cross-sectional PSU's and 100 supplemental PSU's) for each of the eight basic design cohorts listed below:

1. Hispanic Males
2. Hispanic Females
3. non-Hispanic, Black Males
4. non-Hispanic, Black Females
5. Economically Disadvantaged, non-Hispanic, non-Black Males
6. Economically Disadvantaged, non-Hispanic, non-Black Females
7. Other Males
8. Other Females

NOTE: All basic design cohorts, except 7 and 8, were sampled in both the cross-sectional and supplemental samples.

Thus, the step 3 weight factor for the ith respondent was

$$W_{3i} = A_{3i}/s_i ,$$

where,

$$A_{3i} = \frac{\text{Number of assigned cases with respondent i's PSU and design cohort}}{\text{Number of completed cases within respondent i's PSU and design cohort}}$$

and

s_i = probability of retention in sample if ith respondent was in Black or Hispanic design cohort of supplemental sample,

= 1, otherwise

An upper limit of 1.5 was applied to the factor A_{3i}.

4. The purpose of this step was to rescale the weights developed in steps one, two and three for cases in design cohorts 1-6 in order to properly combine respondents from the cross-sectional and supplemental samples. Prior to this step, the supplemental and cross-sectional samples were treated as independent units.

This rescaling was carried out separately for each of the 6 design cohorts present in both the cross-sectional and supplemental samples.

Within each of the cohorts a preliminary weight was computed for each respondent within the cohort. For the ith respondent within the cohort, this preliminary weight was the product of weights developed at steps 1, 2 and 3. Specifically,

$$W'_{4i} = W_{1i} \times W_{2i} \times W_{3i}$$

Within each of the cohorts separate means and standard deviations were calculated for these preliminary weights from the cross-sectional and supplemental portions of the cohort. Thus within a specified cohort

M_c = Mean of weights W'_{4i} from the cross-sectional portion of the cohort.

M_s = Mean of weights W'_{4i} from the supplemental portion of the cohort.

S_c = Standard deviation of weights W'_{4i} from the cross-sectional portion of the cohort.

S_s = Standard deviation of weights W'_{4i} from the supplemental portion of the cohort.

These means and standard deviations were used to determine the weighting efficiency factor for the cross-sectional and supplemental portions of the sample for the cohort as follows:

$$WEF_c = \frac{1}{(1 + (M_s/S_c)^2)}$$ = weighting efficiency factor cross-sectional portion

$$WEF_s = \frac{1}{(1 + (M_s/S_s)^2)}$$ = weighting efficiency factor supplemental portion

These efficiency factors were used in conjunction with the actual number of cases within the cross-sectional and supplemental portions of the cohort to determine the effective sample bases for these portions of the cohort.

Thus,

$ESB_c = n_c \times WEF_c$

$ESB_s = n_s \times WEF_s$

where,

n_c and n_s are defined as the number of sample cases in the cross-sectional and supplemental portions of the cohort respectively. And,

ESB_c and ESB_s are defined as the effective sample bases for the cross-sectional and supplemental portions of the cohort respectively.

Using these effective sample bases, adjustment factors were developed for the cross-sectional and supplemental portions of the specified cohort so that the proportion of weighted cases from the cross-sectional and supplemental parts of the cohort would be in the same relationship as the effective sample bases from these two parts of the total cohort.

Using the preliminary weights W'_{4i}, the total sum of weights from both portions of the cohort is

$$TSW = (n_c \times M_c) + (n_s \times M_s)$$

The adjustment factor for the cross-sectional portion of the cohort was

$$A_{4c} = \frac{P_c \times TSW}{n_c \times M_c} \quad , \text{where } P_c = \frac{ESB_c}{ESB_c + ESB_s}$$

The adjustment factor for the supplemental portion of the cohort was

$$A_{4s} = \frac{P_s \times TSW}{n_s \times M_s} \quad , \text{where } P_s = \frac{ESB_s}{ESB_c + ESB_s}$$

These adjustment factors were applied to the preliminary step 4 weights W'_{4i} to produce final step 4 weights W_{4i}.

$W_{4i} = A_{4c} \times W'_{4i}$, for i within cross-sectional portion,

$W_{4i} = A_{4s} \times W'_{4i}$, for i within supplemental portion.

5. In the final step of weighting, the sum of weights from each of 64 post-strata (8 basic design cohorts x 8 age groups) was adjusted to estimates of population size derived from US Census estimates. This was accomplished by application of the adjustment factor A_5, within each of the 64 post-strata as follows:

Within each of the 64 post-strata,

NSP = total population estimate developed as above.

NSS = total sum of weights W_{4i} for the cohort

A_5 = NSP/NSS.

This factor was applied to each of the final step 4 weights to produce a final respondent weight for year one.

$W_i = A_5 \times W_{4i}$ (W_i = final weight for ith respondent)

As noted above the 64-post-strata were defined on the basis of the 8 basic design cohorts by 8 age groups, as follows:

8 DESIGN COHORTS

Males - Hispanic
Males - Black Non-Hispanic
Males - Economically Disadvantaged Non-Hispanic, Non-Black
Males - Others
Females - Hispanic
Females - Black, Non-Hispanic
Females - Economically Disadvantaged, Non-Hispanic, Non-Black
Females - All others

2 AGE GROUPS

Single Birth Years 1957, 1958, ..., 1964

Estimates of Post-stratum size were derived as follows:

1. Estimates of the Civilian Population of the U.S. were obtained by sex, single year of age and race (black, other) as of July 1, 1978 from Table 3, of Current Population Reports Series P-25, No.800.

2. By using the 13 and 21 year cohorts, these population estimates were carried forward 6 months to produce estimates of the 14 - 17 and 18 - 21 population by sex as of January 1, 1979.

3. Current Population Reports Series P-20, No.339: Persons of Spanish Origin in the United States: March, 1978 was used to estimate the number of non-Black Hispanics in each of the single year age cohorts. Current Population Reports Series P-60, No.120: Money Income and Poverty Status of Families and Persons in the United States: 1978 was used in order to estimate the number of economically disadvantaged non-Hispanics, non-Blacks in each of the single year age cohorts.

DESCRIPTION OF WEIGHTING: MILITARY

OBJECTIVES

Data weighting for the initial year in military cohort involved three basic steps designed to accomplish the following objectives.

1. Correction for differential probability of selection for males and females.
2. Correction for differential interview completion rates.
3. Adjustment of weighted sample size to conform to known population size by service and sex.

PROCEDURES AND STEPS

1. In the initial step, weights were assigned to each case on the basis of selection probability. For the ith respondent, this weighting factor was

   $W_{1i} = 1/f_i$, where f_i is the probability of selection for the ith respondent. For all males, this probability $f_i = 1/496.124$. For females $f_i = 1/78.851$.

2. In the second step a completion rate adjustment factor was calculated on a PSU by sex basis as follows:

$$W_{2i} = \frac{\text{Selected individuals of same sex within ith respondents PSU}}{\text{Number of completed cases of same sex within ith respondents PSU}}$$

   The factor W_{2i} was constrained to an upper limit of 1.5.

3. For each respondent, a preliminary step three weight was calculated by multiplication of the weights from steps one and two

$$W'_{3i} = W_{1i} \times W_{2i}$$

   These preliminary weights were then summed within 8 (4 service by 2 sex) post strata. The third step, final adjustment factors were then determined as the ratio of the actual population within the post-stratum to the sum of step three preliminary weights within the post-stratum.

$$A_{3i} = \frac{\text{Population size within ith respondent's post-stratum}}{\text{Sum of step three preliminary weights within ith respondent's post stratum}}$$

The final weight assigned to the ith respondent was

$$W_i = W_{1i} \times W_{2i} \times A_{3i}$$

It should be noted that population sizes within the 8 post strata [(ARMY, NAVY, MARINE CORPS, AND AIRFORCE) by (MALE-FEMALE)] were obtained from the list sampling frame of all persons in the armed forces as of September 30, 1978 who would be between 14 and 21 as of January 1, 1979. Although information was available which would have allowed the use of a finer level of post-stratification based upon age and race/ethnicity, this finer post-stratification was not implemented. On the basis of the sample composition, it was felt that the use of this finer post-stratification would greatly increase the amount of sampling variation without an equal decrease in total survey error (i.e., mean squared error).[1]

[1] If required, population distributions can be provided which will allow for this finer post-stratification weighting.

AFTERWARD

This report is based on data from a special survey--the 1979 National Longitudinal Survey (NLS) of youth--funded by the Departments of labor and Defense and conducted by the Center for Human Resource Research at Ohio State University. The young people in the survey will be interviewed annually for the next 5 years, enabling researchers to trace their labor market experiences and problems over time.

Many facets of youth labor market activity are covered in this volume, including current labor force status, hours and weeks worked, job search activities, and youth attitudes and aspirations towards school and their future labor market prospects.

Even though a wealth of useful information is covered here, it is important to note, as the authors emphasize, that the data are preliminary, not definitive. Thus, further refinements, reweighting, and more sophisticated analyses may change some of the results.

The NLS estimates of employment and unemployment differ somewhat from those obtained from the official figures published by the Labor Department In particular, the NLS estimates of unemployment, especially among youth ages 16 to 17 whose major activity is attending school, are higher than the official published figures. There is much less variation between the two surveys' estimates of employment, though the NLS employment estimates are somewhat higher. Standard errors of the NLS data are not yet available to allow testing for the statistical significance of the differences.

Previous surveys of youth--the National Longitudinal Study of the High School Class of 1972, and the old National Longitudinal Survey begun in 1966--have also yielded different estimates of labor force status than the official figures. However, unlike the data presented in this monograph, the differences in unemployment rate estimates tended to be lower, marginal or nonexistent.

There are a number of possible reasons for the survey differences: these range from survey procedures, design and methodology, interviewer experience, questionnaire content and design, and whether the youth respond to the labor force questions themselves or the information is provided by another member of the family.

The fact that unlike labor force estimates have been found in different surveys raises, once again, the problem of obtaining precise measures of the labor force status of persons with very marginal and fluctuating attachment to the labor market. It is in this context that the Bureau of Labor Statistics is continuing its in-depth analysis of each youth survey and their differences from the official government survey to answer questions concerning the significance of any differences that exist, and to probe for the explanation(s) for such differences.

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